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ORIGINAL ARTICLES.

THE CONSIDERATION AND CURE OF CHRONIC TUBERCULAR CONSUMPTION OF THE LUNGS.

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In the preparation of this paper I have endeavored to be as concise as possible consistent with clearness; I have employed the terms phthisis, tuberculosis and pulmonary consumption as expressing the same pathological condition.

The progressive tendency of the tubercle of phthisis is of a fibrous nature, or a leaning toward healing or health; becoming through this means a self-limiting condition. The direct reverse of the tubercle of cancerous and other inflammatory ulceration.

I have for many years maintained by theory, and shown by actual results, that pulmonary tuberculosis may be cured, even after extensive degeneration of lung tissue has taken place; provided the constitution has not become vitiated by disease or other causes, or its recuperative powers destroyed by old age.

We now find this assertion copiously substantiated by eminent authority. Given suitable handling, in all that the term implies, and the extent of the depredation will take care of itself; it will make little difference whether prognosis has limited the life of the patient to a certain number of weeks or months.

It is the cowardly attitude of settling down to palliative measures that has wrought the mischief in the past. Such means exclude all recuperative agents, and serve to deprive every organ of its normal activity in the performance of its functions, as a result favoring the destruction already going on.

This idea that a person must be doomed to die of phthisis because one of his parents were its victims seems now about to be thrown into the rubbish of the past, and the sooner this absurdity can be removed from the mind of the public the better.

GENERAL TREATMENT.

My thesis written in 1857 was entitled, *Pure Air, Pure Water, Cleanliness and Exercise.* Their importance in the prophylaxis and cure of disease.

From the time I commenced practice these agents have been my best allies. In my surgery, air, water and cleanliness have been my antiseptics, pure water doing for me what corrosive sublimate, iodoform, etc., have accomplished in the hands of others.

In 1862, I first read Chamber's Lectures on the Renewal of Life, and so impressed was I with the truth of his reasoning that I have kept that object in view in the treatment of disease in every form ever since. The number of cases of chronic pulmonary tuberculosis that have come into my hands for treatment are, according to my reckoning, about 3,000, exclusive of those I had in the United States Army. Every case shows me yet more plainly the folly of attempting to adopt a routine which shall be applicable to all tuberculous patients. The treatment of every patient must be a problem unto itself.

By no means is it essential for the same unfavorable elements to combine in order to bring about certain results. The susceptibility of the individual to certain conditions must be considered. We must meet every condition, physically, mentally and morally, and in this way regard his case as entirely distinct from any other.

While the various theories as to predisposing causes, hereditary tendencies, and the means of combating them have not embraced all the elements of success, still they have given us all the light we have had upon this dark subject, and so far as hygienic influences have been recognized they are deserving of our highest consideration.

Until the bacillus made its shadow upon the screen of our observations (whose office it seems to me should be regarded as that of a very lively interrogation point, rather than as a period to all future questionings), the trend of the past few years had been towards recognizing in Nature a powerful factor in the prevention and cure of consumption.

Let us not get bacilli mad! Cannot we have a case of pulmonary tuberculosis on our hands and not yet be able to find these little fellows;

the very recent knowledge of whose existence seems to have wrought a condition in our brains as disastrous as their presence is credited to produce in the lungs of our patients?

Let us not forget our modest days of small things, before bacilli were known, and thus carefully avoid the danger which now seems to be threatening of ignoring all other means of diagnosis in our frantic search for the revelations of the microscope.

Nor will we permit this to let us slight the premonitory warnings of the approach of this disease, and thus encourage the baneful tendency to dismiss, with some simple opiate, a slight cough, protracted cold, irritable throat, etc., because as yet the expectorations have failed to yield the little wriggler whose presence only shall determine the tuberculous condition.

If tuberculosis must owe its existence to this alone, then I shall maintain, at the expense of paradox, that he who would cure chronic pulmonary tuberculosis must begin the cure before he finds the disease in his patients.

Build up the general health of the consumptive so that his chemico-vitalizing function will be sufficient to destroy the bacilli. In fact, put every patient into such a degree of health that he shall be his own bacilli-killer.

Bacilli cannot exist in perfectly healthy lung tissue. It must become diseased before it can offer sufficient inducement for him to live and propagate in it, and upon its resumption of health the tenant vanishes.

HYGIENIC INFLUENCES.

A perfect familiarity with the daily life of our patient must be our first consideration. Our surroundings make us what we are, physically as well as morally and socially. Man is like the chameleon, every part of his nature partakes and is made up of his surroundings. "Show me your friends and I will tell you what you are." This is as true of the physical as of the moral man.

If our treatment could begin with the birth of the patient, in 99 per cent. we should have no tuberculosis to treat, no matter about the family history.

Fear is a powerful provocative to physical degeneration. Take the condition of the poor. It is not generally their immediate wants which cause the catastrophe. People who are habitually poor are not necessarily feeble, but those who have lost their wealth are the sufferers. Fear as to the immediate future for themselves or others; with this instinctive nervous shock the body shrinks, all the organic functions are disturbed. Especially is this true of the respiratory functions. Fear of any sort has a depressing effect upon the respiratory centre. This is as true of animals as of men. Anxiety is but a species of fear.

It is futile for us to shut our eyes to the reflex action which the mind throws upon the physiological powers. We see proofs of it every instant, yet dispute it, and call it unscientific. What are we striving to accomplish in our treatment of disease? Is it not our aim to coax, by all manner of means known to us, this vital principle called Life to tarry yet a little longer in its diseased encasement? Then give its presence a just recognition by attributing to it a capability both creative and destructive, a reality though intangible.

EXERCISE.

The various mechanical arrangements now in vogue for indoor exercise are generally to be commended. The patient must be imbued with the determination to get well. He must be made to understand that much depends upon himself. That he must exercise as well as eat. The exercise must be accumulative, doing a little more every day, and the nourishment must also be accumulative. The amount of exercise he can bear will depend upon the amount of strength-giving food he can assimilate, and vice versa.

RECREATION.

The recreations should be of a nature that will inspire an interest on the part of the invalid in their accomplishment. There should be an importance attached to them requiring some thought. The unemployed mind is a powerful depressant to the nervous forces. Let the daily walks and rides have some purpose, if nothing more than the performance of the domestic errands of the family. If he loves art and music his tastes should be gratified. There should be a moderate indulgence in out-of-door sports, as bicycling, ball, surf-bathing when allowable, horseback riding and skating. Our lady patients have their gymnastics, tricycle, horse-back riding and skating, and of great importance, their vocal gymnastics. This will expand the lungs and strengthen the pectoral and respiratory muscles. Being a pleasant recreation, and at the same time a most excellent means of bathing the air-cells with oxygen and teaching the vocal organs the proper performance of their functions. After a few weeks of judicious practice the dimensions of the chest will be found to have increased from four to five inches.

Practicing at the piano, needle-work or any employment which requires close application and necessitates contraction of the chest walls in its performance, should be forbidden.

DAILY CARE OF THE PATIENT.

Our phthisical invalid should have the constant attention of a well-trained nurse. His room must be sunny, with pleasant prospect from the windows. No stuffy furniture, no carpets, no fancy articles hanging or standing about, ready

upon their slightest agitation to disseminate the accumulated dust of stagnation and disease. If possible, the walls of the room should be painted. They can then be wiped off occasionally with some disinfectant, as borax water or Platt's chlorides. Place pine, spruce or fir boughs about the room and under the bed the patient occupies; this will impart to the atmosphere an agreeable odor, and has undoubtedly the effect of calming laryngo-bronchial irritation and diminishing the frequency of the cough. I am convinced of the benefit of breathing this air. It is also well to spray some agreeable antiseptic about the room, as essence of cinnamon, clove, gaultheria, eucalyptus, etc.

The bedstead should be of metal, having a fine wire spring, hair mattress and fine wool blankets; no draperies.

If possible, let the artificial lighting be of electricity, but if gas must be used, see that the burner is a proper one to consume all the gas as it is forced through. Avoid lighting or heating by kerosene oil; a kerosene lamp or heater consumes more oxygen than the patient does himself.

The temperature of the room should be equable, ranging from 68° to 70°, and in the damp and rainy days of summer it must be made dry by a grate fire or some other form of heating.

The underclothing of the patient should be of wool the year round, and changed every day. There is no necessity of encasing him in very thick, unyielding flannel; it seems rather to produce a weakening effect by preventing the free escape of the exhalations of the body; those which are loosely worn and of light weight and soft texture serve a better purpose.

The nurse must be able to manipulate the patient's body, rubbing, lightly pounding or patting and beating with a whisk broom. In beating the surface in this manner it has a direct stimulating effect upon the peripheral nerve-endings, and produces a vitalizing influence that cannot be obtained in any other way; for in the broom we have anywhere from 1,000 to 2,000 twigs of different sizes, and this beating of course produces as many different vibrations upon the nerves and nerve-centres, thereby increasing wonderfully the power of the skin in appropriating oxygen and nutrition.

The bowels should be kneaded; a most excellent process for obstinate constipation. Rubbing with flannel may at times replace the bath when the patient feels a repugnance to water. The limbs should always be rubbed towards the body. Rubbing with flannel charges the person with an amount of electricity which cannot be produced in any other way.

In women patients there must be absolute freedom from dragging skirts, tight bindings and garters. The dress must allow perfect liberty of action in chest and limbs. I do not object to corsets if they are worn loose, if the patient insists that they are a support to her; in the place of injury, I think they are a benefit; but they must be worn loose enough to not interfere with the movements of the diaphragm. She should wear felt shoes, neither laced nor buttoned tight around the ankles; cold feet at night invariably follow the wearing of closely-buttoned boots during the day.

FOOD.

While pure air may be prescribed without limit, and the same sanitary surroundings are equally beneficial to all, yet when we come to the question of diet, we cannot prescribe in a general way; we must be guided by the likes and idiosyncracies of our patients. We may find one to thrive on pure milk and occasionally one who can take cod-liver oil with benefit, while the digestive organs of another will be thrown into a terrible state of disorder by these agents.

The patient must have regular times for eating solid food. It must be taken at least every four hours, and drinks between times, of milk, beef tea, aromatic teas, gruels, fruit juices, etc. Milk when well borne and assimilated is nourishing, strengthening, and fattening, and we have great occasion to be glad when we find it can be taken in large quantities and digested. Unless we can get milk that is fresh from the cow, the condensed milk without sugar is preferable to old milk.

Infusions of malt, when properly made, may be taken by nearly every one. And instead of undertaking the digestion of thick malt extracts a simple infusion like the following will be much better: Malt in coarse powder, 4 ounces. Water heated to about 86° F., 12 ounces. Macerate for four hours at a temperature of about 100° F. Then gradually raise it to about 130° for half an hour; strain this infusion with strong expression and add one grain of salicylic acid. This quantity can be taken every day; it can be flavored at any time by adding a drachm of hops, chamomile flowers, or any of the aromatic herbs. This will be found far superior to any of the thick malt extracts. I do not advocate the use of cod-liver oil; as a usual thing it will derange the stomach and prevent the patient from taking a due amount of suitable food. Cod-liver oil cannot supply the place of meat, bread and butter, but meat, bread and butter can more than supply the place of cod-liver oil.

Man being omniverous, should have variety in his food. Juices of meat, and the fat of newly made butter and sweet cream. Also vegetables cooked with some good fat meat should form a part of his diet, but in very small quantities. The expressed juice of different kinds of berries, pineapple, etc., may also be partaken of. The concensus of opinion has been that meat is better the

longer it has been kept, but I contend that the sooner meat is eaten after it is slaughtered the more health and life-giving properties it has; the same is true of milk, the sooner it is drank after being drawn from the udder the better.

All food should be disintegrated when eaten with copious draughts of pure water or some agreeable aromatic tea. This I have always maintained, through the long-drawn misery of the dry food mania, at the expense of severe criticism from my professional brethren. The patient should consume at least three pints of water in the twenty-four hours, and more if necessary. We know that water forms three-fourths of our animal economy, that it enters in the same proportion into all animal life, hence consumptive patients must take a large amount of liquids. We also know that water has solvent powers, that it will often overcome the most obstinate constipation, that it is also a powerful medium for removing effete matter from the body, acting on the alimentary canal both mechanically and chemically by changing their atonic condition and enabling the absorption of nutritious food. The addition of one-third to one-half parts of pure water to milk has been more effectual in preventing the formation of curd than lime-water, and a mixture of equal parts of water and milk, or infusion of malt, will quench the thirst of phthisical patients, reduce the temperature, and have a quieting effect. Not unfrequently this can be borne better than either separately.

Ice-cream made from rich cream and milk may be eaten sparingly when the patient is feverish and craves cold food and drinks. The peptonized milk of Reed & Carnrick is good, and adds to the variety, also their beef peptonoids. Never allow the patient to eat yeast-made bread, it must be made from cream-of-tarter baking-powder, and twice baked, (*i.e.* lightly toasted).

The food must be varied; surprises in the way of unexpected dishes are a stimulant to the appetite. Fresh beef broiled, or scraped and eaten raw, or made into little pats and nicely seasoned and sparingly broiled over the coals; or, have the lean meat, free from fat and fibrous tissue, chopped in an enterprise chopper and to each pound of meat add one-fourth pound of fat breakfast bacon. This can be carefully broiled, salted and flavored to the taste and makes a most toothsome morsel. The patient rarely tires of it. He should eat from two to three pounds of this during the twenty-four hours.

Pig meat is not the worst kind to eat by any manner of means. I have no reference to the New England hog fed on slops, wallowing in filth, shut up in a seven by nine box without fresh air from birth to the day of slaughter. I refer to the much maligned western hog, that knows not what filth is, that from its earliest predecessors has had pure air and cleanliness, and been fed on nuts, corn and wheat. Such meat is healthy and digestible. One or two teaspoonfuls of gluten may be included in the diet, cooked or uncooked, as suits the stomach. Fish can be partaken of once a week, also oyster and clam juice.

The patient should not be made to eat alone in his room; the pleasures attendant upon eating have much to do with results. Shut off from a life of activity, the feeling will come sooner or later according to his temperament, that he is a doomed man. There is always a tendency in the person suffering from any chronic ailment to foster the idea that he is of no account in the world because of his debility.

The object of the diet should be to nourish, strengthen and fatten. When we find our patient digesting his food, picking up in flesh and getting stronger every day, we have reason to believe his recovery is not only possible, but probable.

SLEEP.

"The death of each day's life,
Sore labor's bath,
Balm of hurt minds."

Sleep is but another form of food, and is not less essential than the food we take into our stomachs.

No matter what the disease, we know its malignancy has yielded when the periods of long, sound, natural sleep advance. As a prophylaxis, sleep ranks among the most important. Only through sleep can the nerve-centres relax and recuperation begin.

During the night of healthy sleep the scavengers of the body are working noiselessly with their implements of conveyance, preparing for the morrow's labors.

Darkness is the period of perfect rest. Until the human mind discovered the means of substituting by artificial light that of the sun, mankind retired with its declining rays. Children—of whom it has been said, their life, as it develops, give a fair representation of the lines of human progress—naturally seek repose at sunset. Nature herself at this time seems to be hushing all animated life to sleep upon her bosom.

How different is man under the influences of civilization! Insomnia and neurasthenia are the terrible beasts born of his enlightenment. Lashing their victim night and day until he would willingly offer his soul in exchange for the sound healthy sleep of the barbarian!

Insomnia is to-day the most familiar foe we meet, so prolific in its capacity that without exaggeration or fancy we can ascribe to it the common beginning of a vast part of our chronic ailments. It has come to have an *individuality*, and is no longer a symptom only. One of the common causes of this is the artificial light which is found in the majority of sleeping-rooms during the night, not only of lamps and gas, but the rays of

the electric light stream through our windows. Although the eyes may be closed, we are conscious of the changes in its flickering glare. The patient becomes accustomed to it and feels that he cannot have it excluded, and so we have added another to the "necessities of civilization."

Not the sleep to be had during the day, but the repose at night must be encouraged in the patient. Discipline will do much toward capturing this sly visitor, other things being equal.

The patient must retire early, he should not exercise his brain by reading or talking after seven o'clock. In summer he should be in bed for the night by eight o'clock, and in winter by seven o'clock. In the summer he should rise in the morning between five and six o'clock, and from seven to eight o'clock in the winter. The room should be of a proper temperature, so he experiences no chill in bathing and dressing.

The night-dress of the patient should be of sufficient thickness to protect the body and allow perfect freedom of movement and position without risk of chill. The flannel undervest worn during the day should be removed at night and one of lighter weight substituted. Bathing before retiring has a tendency to induce sleep. It should be accomplished in a manner the least calculated to task the patient's strength. If the temperature is normal, a wet cloth passed over the body and wrung out in fresh water may take the place of the bath; rub the skin well afterwards.

If the feet are cold they must be made warm and kept so; the means to be employed for this purpose are very numerous. Among the best are, the wrapping each foot in flannel separately, and the hot water bag (but the old-fashioned hot soap-stone is better). These are only palliative; for the removal of this condition there is nothing equal to manipulation done after the following: Begin at the nape of the neck, placing the ends of the first and second fingers firmly on each side of the spinal column, carrying them firmly and evenly downwards its whole length; repeat this several times. After this rub well the soft hollows in the ankles each side of the heels and around the joints. The patient will soon begin to feel the blood rushing into his feet, and ere many nights he will have the satisfaction of seeing a healthy circulation established in these parts.

Beef tea, beef peptonoids or some other light form of food should be served the patient directly on his awakening in the morning.

PURE AIR.

When practicable the person should be sent into a hilly district where he can have the advantages of a high and dry atmosphere. Avoid lakes and all bodies of fresh water. Otherwise as good air can be obtained in the city as in the country. Boston is particularly fortunate in this respect. We should be grateful for the easterly winds, though they have given our town an unfavorable notoriety. Their salty breath cool and purify the atmosphere and render it a habitable city in the summer, even in the meanest localities.

I believe the bedrooms of the populace are generally tolerably well ventilated.

A certain class of enthusiasts upon the subject of ventilation have fallen into the error of overdoing the thing, or in doing it so badly that it becomes an injury, by allowing the air to come in stratas, making a draft upon the sleeper, whose powers of resistance are diminished.

It is a good plan to have the ventilation come through the windows of an adjoining room when possible. As the sleeping person does not require so much air as when he is up and around, it is not necessary that he should be deluged in a constantly changing current.

BATHING.

The superficial application of moisture to the body which the patient receives at night is not for cleanliness. He should have a daily bath, adding to every quart of water a teaspoonful of powdered borax or tablespoonful of aqua ammonia. Also use soap having an agreeable perfume. After he has been well wiped with a rough towel he should be anointed with nice fresh lard thoroughly beaten to a creamy consistency and perfumed to suit the fancy of the patient. Instead of the lard, petroleum, coca butter, cotton-seed oil, can be used, perfumed by the addition of some agreeable essential oil. The Turkish bath, shower-bath, cold pack, all have their place, and the hot spinal rubber bag for hæmoptysis.

MEDICAL TREATMENT.

It would be impossible for me, in a paper of this nature, to enter into details of treatment for every tubercular condition, so I have grouped in the following lists the remedies I use for the various requirements of the disease, employing them singly or in combination as occasion may require.

The first thing to be considered for our consumptive is his power of digestion and assimilation. His food must nourish and strengthen.

I find in the majority of cases it is beneficial to begin treatment by giving from one to five grains of calomel at night, followed in the morning by one or two drachms of sulphate of soda. This I should do whether the tongue be clear or foul, whether there be diarrhœa or constipation. Repeat for two or three nights as indicated; at the same time he must sip one-half pint of hot water slowly at least half an hour before meals. If there is tendency to constipation after the calomel and soda have passed off, give one or more of the following remedies:

FOR CONSTIPATION.

Sodium phosphate, sodium sulphate, magnesium sulphate, oleum ricini, rhamnus frangula, rhamnus purshiana, euonymus, atro-purpurius, juglandis cinera, sulphur. Appropriate doses after meals of one or more of these remedies, not only act as peristaltic stimulants, but they favor the process of nutrition; the patient gains in appetite and strength.

After the whole alimentary tract has been brought into the best condition possible, so that the patient has a good appetite and is digesting his food well, the following pill may be given: Zinci cyanidi, aurei cyanidi, zinci oxidi, thirty grains; extract cannabis indica, six grains; extract ignatia, three grains, glucose quantity sufficient to make thirty pills. Give one pill after the three principal meals.

Among the appetizers I have used the following infusions: Absinthium berberis, calumba, cannabis indica, benzoin odorifirum, baldo, calisaya bark, gentian and quassia.

For the general cachetic condition of the patient's body (after the condition of assimilation has been accomplished), I have employed on different occasions the following, using them singly or in combination, as occasion seemed to demand: Aurum et sodium chloridum, aurum cyanidum, calcium chloride, calcium iodide, calcium sulphuratum, cuprum arsenicum, sodium arsenicum, hydrargyri cyanidum, hydrargyri corrosivum chloridum, hydrargyri bin iodidum, sulphur, ferrum cyanidum, zinci cyanidum, potassii sulphuretum, nitro-muriatic acid, phosphoric acid, malic acid, creosote, guaiacol, terebene.

INFUSIONS.

Rhamnus purshiana, rhamnus frangula, leptandria, hydrastis, euonymus, populus tremuloides, pyrus mallus, pyrus Americana, stillingia sylvatica, rumex crispus, phytolacca decandra, alnus rubra, benbenis aquifolium.

FOR THE DIARRHŒA.

The following infusions may be given: Blackberry root, sumach bark, pulverized coto bark, logwood. Also tincture of ipecac, and bismuth subnitrate, bismuth salicylate, acidum carbolicum, salol, zinci oxidum, cuprum arsenitis, oleum ricini, and enemas of warm water with hydrastis.

I have also used the following powder a great deal: Zinci oxidi, two grains; sodii bicarb., five grains; pulverized coto bark, one grain, mix. This makes one powder. Take this amount after every meal. Also give cooling, healing drinks, as flax-seed tea, slippery elm, etc.

The hot stomach pad is of great benefit in all stomach and bowel diseases. It removes flatuency, pain, distension, etc., and is valuable in inducing sleep at night. It is made by taking

1. Eight thicknesses of thick cotton crash, 12 x 6 inches.

2. A cotton flannel binder, 12–14 inches wide, and long enough to go around the body, with tapes sewed on the ends to secure it.

3. A duplicate of the latter made of waterproof or mackintosh.

4. The same made of flannel.

The pad must be put into boiling salt water in proportion of one ounce to a pint, then wrung out and applied to the stomach and abdomen as hot as can be borne. Tie the flannel binder, the waterproof, and lastly the outside flannel tightly. When cold it must be removed, put through the hot water again and re-applied. This can be worn two or three hours every day after meals, or if much pain is present, it must be worn constantly. It will improve digestion and promote assimilation to a wonderful degree.

DIGESTIVE FERMENTS.

We have two animal ferments, pepsin and extractum pancreatis; our selection must be governed by the nature of the indigestion. Of the vegetable ferments we have a variety; among them are juice of the carica papaya (South American paw paw); asimina triola, juice of the unripe fruit; anassa satina (pineapple), juice of the ripe fruit; infusion of ficus carica (fig), drosera rotundifolia; musa sapientum (banana), juice of ripe fruit.

For the fever of the first stage I have found selections from the following to be all that were required, used either singly or combined, according to conditions: Norwood's tincture of veratrum veride, tinctures of aconite, gelsemium, lycopus virginica, comicifuga, also antimonii et potassii tartras.

I find these give better results than the newer antipyretics, as acetanilid, antipyrin, etc.

Fever of the second stage: Salicylic acid, salicina, acetanilid, antipyrin, phenacetin, quinia hydra-bromate, salicylate of ammonia.

For the night sweats: Atropia sulphate, picrotoxin, malic acid, zinci oxidum, zinci cyanidum, tincture cocculus indicus, sage tea.

For the sore mouth and the *follicular ulceration* of the mouth and pharynx. Touch the ulcerated spots with a sulphate of copper crayon, and rinse the mouth with a solution of chlorate of potash of the strength of eight grains to the ounce of water, and one drachm of glycerine. (But a few spots should be treated at one time.) In the sore mouth where the mucous membrane looks red and shining, an infusion of rhus glabra or prinos verticillatus, or hydrastes, alnus rubra, and salix nigra may be used with glycerine, one drachm to the ounce. Rinse the mouth freely.

If the secretion of saliva is scanty, the addition of a vegetable acid to the infusion will be necessary. If profuse, add an alkali, as the bicarbonate of sodium or potassium.

For the cough: The general constitutional treatment with the mouth washes, gargles and inhalations, will be all that is necessary unless it should be so troublesome that the patient cannot sleep at night. In that case, give one-third of a grain of codeina, with one-twentieth of a grain of apomorphia hydrochlorate, at bed time. I give preference to the simple codeina to any of its salts. I find it works better.

For a loose cough: Nitrate of sanguinaria, one grain; sodii phos phus, one-half drachm, simple elixir, glycerine, of each two ounces; tincture phosphora, one drachm; mix and give from one-half to one teaspoonful every three hours, in an infusion of pine bark tea.

For asthmatic cough: Nitrate of sodium, nitroglycerine, weak alcoholic tincture of grindelia robusta, inhalations of nitrate of potash paper.

For the *intercostal neuralgia* the following liniment will give great comfort and relief: Olei ricini, olei terebinth, olei eucalypti, of each one ounce, camphor, two drachms, chloroformi, four drachms. Mix and apply morning and night, with long continued friction.

For *inhalation:* Guaiacol, styrone, olei eucalypti, of each two drachms; alcohol one ounce, chloroformi two drachms, mix.

This should be used with a perforated zinc inhaler, for fifteen minutes at a time, every two or three hours during the day. Or the following: Balsam tolu, balsam peru, balsam storax, olei eucalyptus, of each one ounce, alcohol twelve ounces.

Digest for six days and filter, add to this mixture one ounce of beech-wood creosote and one ounce of chloroform. Put fifteen drops on a perforated zinc inhaler and use fifteen minutes every two hours during the day.

Another good inhalant is cold infusion of prunus virginica, four ounces; oil of bitter almonds, two drops; hydrocyanic acid, dilute two drachms; chloroform, half a drachm.

Mix and inhale five minutes every two hours during the day, through a Laforme or similar inhaler.

SPECIFIC HYPODERMIC AND PARENCHYMATOUS TREATMENT.

Hydrargyri chloridi corrosivi, one grain, sodii chloridi, one-half ounce, aqua fervens, dist. four ounces. Mix and filter. Begin by giving five minims subcutaneously into the cellular tissues every day, increasing one minim a day until fifteen minims are reached; then go back to the five minims and increase as at first. I have used this for the last ten years in the various stages of chronic pulmonary consumption. I have also used the solution of chloride of gold and soda as recommended by Drs. Shurly and Gibbs, but I very much prefer this. There is no doubt in my mind but it has a direct effect upon the bacilli in the lungs.

This hypodermic injection can be used per rectum in doses of five drops in half an ounce of water, three times a day, increasing one drop a day until thirty drops have been reached. Then go back to the five drops and increase as before.

The rectum must be washed out with tepid salt water before each injection. Administered in this way it will be taken directly into the circulation unaltered.

The two methods can be alternated in any case where it is not feasible to give it either hypodermically or per rectum; commencing with ten drops and increasing up to thirty, and then go back to the original dose as before. This should be given directly after the three principal meals.

All vegetable remedies should be given in infusions when practicable, made from the fresh bark, leaves or roots, and to every pint of the infusion add one grain of salicylic acid and ten drops of chloroform. As the patient is about to drink it, let him put into every ounce one teaspoonful of glycerine.

The infusion should be made every day and drank cold.

Epidermic medication should also be practiced, using as a base either pure lard, coco butter, petrolatum, cod liver oil, or fresh butter, variously combined with resorcin, quinine, aromatic oils and resins.

I will close by giving one case which I had in February, 1883. The symptoms may, I think, be considered as typical, and the treatment shows in a general way my ideas of the manipulation of tuberculosis.

Miss Page, blonde, aged 21. Family history showed the father and mother to have died of tuberculosis, together with a brother and sister and several uncles and aunts on both sides of the house. She had been ailing for three months when I first saw her. Lost considerable flesh, was coughing morning and night. Sputa frothy, pulse 120, temperature 102° in the afternoon. Had slight hæmoptysis. Percussion showed slight dulness over the apex of left lung and rough respiration. There was intercostal neuralgia and general tenderness over the whole chest. Appetite poor, bowels constipated, urine scant, passing about one pint in the twenty-four hours, with specific gravity 1030. The skin was very dry and scurfy.

I began treatment by giving three grains of hydrargyri chloridimite at night, in the morning two drachms of sulphate of soda in a pint of hot water, and one pint of spearmint tea before dinner and supper, and a borax bath in the middle of the afternoon to be followed by inunction made of four ounces of pure lard and one drachm of oil of bergamot, alternating this with an inunction of resorcin one drachm, dilute alcohol two drachms, petrolatum one ounce, oil of gaultharia one drachm. Mix and use as above.

I ordered a suppository at night made of iodoform twelve grains, coco butter three drachms, creosote and oil of cloves of each two drops. This amount makes twelve suppositories.

For inhalation, balsams of Peru and storax, oil of sassafras, of each one ounce, alcohol twelve ounces. Digest six days, filter and add one ounce of chloroform. Make a paper funnel and place in it a wad of absorbent cotton. Put from fifteen to twenty drops of this mixture into it and inhale five minutes every three hours. For the constipation, infusion of rhamnus purshiana, p. r. n.

I gave the following to the patient after meals as an antiseptic tonic:

Chloride of sodium four drachms, chloride of potassium two drachms, corrosive sublimate half a grain, water four ounces. Give one teaspoonful after the three principal meals, in two ounces of water or aromatic tea.

As an appetizer the following was all that could be wished: Extract cannabis indica six grains, extract ignatia two grains, salicin fifteen grains, phosphate of calcium half a drachm. Make into thirty tablets and take one thrice daily.

This not only created an excellent appetite, but kept the bronchial mucous membranes free from undue irritation.

For the high temperature she had the following: Tincture veratrum veride one drachm, hydrocyanic acid, dilute, one drachm, tincture prunus virginica, four ounces (made from the green bark, alcoholic strength one to six), put four ounces of the bark into sixteen ounces of the menstruum, give of this from twenty to thirty drops three times daily, in water, or an aromatic tea.

The diet was rare meat, not less than one pound in the twenty-four hours, and from that up to three pounds, condensed milk, bread made from cream of tartar baking powder, soft boiled rice, infusion of malt (made in the manner described), pineapple juice and orange juice, plenty of nice butter, fresh cream.

The principles of hygiene that I have formulated were fully carried out.

The patient was under my treatment for six months and perfectly recovered, and is now in good health.

A MIXTURE FOR HÆMOPTYSIS.

Bamberger is said to have approved of the following mixture in hæmoptysis:

℞. Turpentine, āā ʒ j.
Oil of sweet almonds, āā ʒ j.
Mucilage of acacia, āā ʒ iv.
Simple syrup, āā ʒ iv.
Distilled water, ʒ v. ɱ.

One teaspoonful of this mixture may be given every half-hour.

INSTINCT IN ANIMALS AND INTELLIGENCE IN MAN CONTRASTED.

WITH AN EXAMINATION OF DARWIN'S DICTUM OF THE "MISSING LINK" AND LINNÆUS' DOGMA "NATURA NON FACET SALTUS," WITH A FEW ORIGINAL OBSERVATIONS THEREON.

Read by Title in the Section of Medicine and Physiology at the Forty-Second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5, 1891.

BY WILLIAM W. PARKER, M.D.,
OF RICHMOND, VA.

Instinct in animals is a matter of daily observation by every class of mind, and has always been a subject of great interest, nevertheless it seems still little understood. Writers in psychology are not yet agreed even upon its definition.

Ribot, a modern French writer, says it embraces "all those psychological phenomena occurring in animals, and all forms of mental activity, inferior to those in men." A German contemporary says "It is an act conformed to an end, but without consciousness of that end." Darwin's definition is more elaborate, but scarcely more definite; by reason of its length it is more open to criticism. He says "Instinct is an action which we otherwise would require experience to perform, when performed by an animal, more especially by a very young one, without any experience, and when performed by many individuals in the same way without their knowing for what purpose it is performed." This definition is certainly at fault when it claims that actions under the direction of instinct are performed "without knowing for what purpose they are performed." The dog that went once a week many miles to market alone certainly knew for what purpose he went there. The horses in Richmond that quicken their pace at midday when their heads are turned towards their stables, know why they prefer to go in that direction.

It may be impossible in a few set phrases, however carefully considered, to differentiate clearly human intelligence from what we call animal instinct. Their manifestations are so varied and numerous, and so interlocked, that like the lights and shadows in the landscape we cannot say where the line of separation really begins.

Why there should be such reluctance among modern writers in granting intelligence to animals is rather hard to say. The analogy in anatomy and physiology of man and the lower animals is very remarkable. The laws of digestion, assimilation, circulation, etc., are very much the same. We endeavor by vivisection to unravel the mysteries of digestion or indigestion in man.

In the brain of the animal we see analogy in structure; why may not there be analogy in function?

But to return. It seems to me sufficiently defi-

nite to say that "Instinct in the animals is a strictly limited knowledge or intelligence sufficient only first, for self preservation; second, for the propagation of the species; and third, to secure their usefulness to mankind."

SELF-PRESERVATION.

1. Of self-preservation. Love of life is an instinct universal in man and all animals. The she-bear beats her cubs and drives them up the tree at the sound of the dogs. The "danger cry" of the hen sends her chickens to shelter. Not to furnish the animal with sufficient intelligence to protect itself and its young would have been both a cruel and fatal mistake in the Creator. This point needs no further argument or illustration.

2. An equally fatal error would have been not to make provision for the propagation of the species. To do this requires far more intelligence in the animal than was needful for self-preservation. What man with his teeth and feet can build a bird's nest? Where is the man who can with his hands construct the delicate cells of the honey bee? or spin the attenuated spider's line. How each cell is measured so that all its sides and angles are equal. What foreknowledge in the squirrel to provide in summer for the wants of winter, and yet how indispensible this knowledge.

There is no end of illustrations in this line, familiar to all who think at all. But let it be remembered that no bird can build for another. Each bee must work in its own hive.

How could the animal kingdom be useful to man without first, a good memory; second, a knowledge of persons; and third, some knowledge of property, but all limited. I think much of the remarkable ability of the horse and other animals to find their way home is due to memory.

But this does not meet every case. Some years ago, I visited a patient six miles from the city; there was a private pathway leading across a field cutting off a mile to the house, shown me by the messenger; it was winter, and the path could be very well seen. Five years after I visited the same patient in the summer; the way was lined on either side by high grass and weeds so that it was impossible to see the path. I was riding the same horse, and I looked hopelessly for the path, but the moment I got opposite to it the horse darted from the middle of the road and struck the path exactly. I could not see it till I got some distance in the woods, and supposed he had made a mistake. Here was a mathematical exactness, marvelous and incomprehensible; it was as exact as the magnet. Can there be any of this magnetic power in animals in regard to the cardinal points? guiding them with unerring certainty? What philosophy will solve this problem? And yet how necessary this exactness. If the bird, five miles from its nest, did not know its exact locality, how could it ever get the information? There must be no uncertainty here, the least deviation would be fatal to the bird and its young. This knowledge is impossible to man; he, however, can inquire the way when lost. The bird must know certainly, or his creation is a failure. So doth God work! We all have daily illustration how the horse's memory is exercised here in the city; if you visit a patient in the morning and have to pass the same house a dozen times the same day, he will wish to stop every time. This is memory without reason, a low form of intelligence.

An equally important factor in the value of the animal to man is his recollection of persons; the dog knows every one in the family, children and servants, knows them day or night, knows their names and often their voices, otherwise he would be of no value as a guard. He would be worse than useless, he would be dangerous.

3. The animal, to be useful to man, must also have some knowledge of property. I had once a very clever dog. I have seen him kill three moccasin snakes in ten minutes; he would take them by the middle, shake them violently, drop them, pick them up again and shake them until they were dead; to do this successfully and safely required great dexterity. He seemed to know as well as I did that the bite would be fatal and hence he used the greatest precaution. I one day threw an old basket up a tree and it lodged there. I tried for some time with rocks and sticks to dislodge it but without success; this dog was with me; he remained under the tree all night and till the afternoon of the next day, fasting and guarding my property.

The dog will take the market basket home and guard it from robbery, but to show the distinction between instinct and reason, if you put rocks and sticks into it instead of beans and beefsteak he will carry it to the cook all the same.

We all know that the shepherd dog knows his master's sheep, and knows if one is missing, and he will protect them with his own life. Is not this "knowledge of property?"

Dogs are very much attached to their homes and will make journeys of hundreds of miles to return to them, and by ways that they never traveled before. Though carried on the cars 300 miles they will return, but not by the railway track.

SOME REMARKABLE CASES OF INTELLIGENCE IN ANIMALS.

Mr. Locke, in his essay on the Human Understanding, gives the case of a parrot owned by a Spaniard in a seaport town in South America, who said to her master, "What are all these officers doing here?" The company was startled, and some one replied, "and what are you doing

here?" The parrot said, "I mind chickens," and at once began to cluck like a hen.

A gentleman was once driving into the country and his horse suddenly stopped at a blacksmith shop; his master said, "What is the matter with you, Tom?" and got for answer the uplifted hind foot, a sudden shake and the rattle of a loose shoe.

We had a parrot who, when he stole preserves and heard my mother's footstep on the stairway, would fly to the top of the bed post and begin to cry out with fear before accused of the theft. He was fond of musical sounds, and would take small pebbles, put them into a saucer and toss them up to hear them jingle.

I have a cat that has been in the family for eight or nine years, the only cat I ever fancied. She has three methods of getting into my chamber in the morning, and she always pursues them in regular order, the simplest first, and the most complex last. First, to cry at the door, then to scratch; second, to go back three or four feet and throw herself violently against the door. When this fails she gets out on the front porch where, by opening the slats to the blinds, she can see me in bed, and then she rattles or scratches the blinds to attract my attention. Here is reason, beyond question. I was at a loss at one time to account for her second method, but I think she got this idea from seeing the children chasing each other from room to room in play, and when those inside were holding the door, those without would run against it and push with all their might to get in. The third and last way to enter was due to the fact that the cat had often in summertime, when my window was open, been in the habit of entering my room through it. When a child is badly hurt and cries aloud this cat will run with the other children and get up into the lap of the injured child in apparent sympathy.

Dogs know when they do well and when they do ill; they like praise and dislike censure.

We have all seen the wonderful effects of careful training in some animals: this knowledge is secured by imitation. A child of one year can make great progess in this line.

It presupposes a very little knowledge.

OPINION OF SOME DIVINES OF THE LAST CENTURY.

The idea that the lower animals will be resurrected, as was insisted by many distinguished divines of the last century, is not tenable. We may fairly suppose that animals possess no power of introspection, retrospection, or antispection, if I may coin a word, or anticipation of the future. I use these expressions in their broadest sense. This knowledge would require "abstraction," a power not belonging to animals, as is generally agreed.

IDENTITY.

Can we suppose that the animal has any idea of identity? I think not. Identity is arrived at by a review of the past, a tracing of one's history backwards link by link, to childhood, and a capacity to join these links, and show their congruity resulting in what we call consciousness. We cannot concede this power to brutes.

INSANITY IN ANIMALS.

Another new question, perhaps, is this: can the animal become insane? I think not, as insanity is the breaking of the chain of identity. If the animal does not have it of course he cannot break it. When broken in man we say he has "lost his mind." He has broken the link that binds him to the past. He has lost his identity and by consequence his consciousness. I use this word in its broadest sense.

Rabies in the animal bitten by a dog is not, pathologically, insanity. It is a blood poison leading always and speedily to death; in the dog himself it is a specific disease not at all analogous to insanity in man.

It is singular how opposed some people are to granting even limited reason to animals. But Job allowed them this in his day. He says "God deprived the ostrich of knowledge and understanding, and hence she foolishly laid her eggs in the sand and the foot of man and beast will crush them." The knowledge of animals to that of man is as zero. It is like the knowledge of A B C to that of the English language. No animal could ever understand one of the simplest axioms in mathematics, which might be said to be below the plane of reason, as they do not need reason for their acceptation. Training of the most sagacious animals through ten generations could not bring one of them up to this point. They have no inventive power outside of their own necessities. None could be made to comprehend the principles of the simplest art or science. The dog and horse of a thousand years ago are the dog and horse of to-day.

This knowledge is stationary; when brought in contrast with man's it seems as nothing; a drop of water to the ocean, a grain of sand to the endless beach, its elements are memory and imitation. There is one exception, and that is their knowledge of places. This is marvelous, as before said, but without this special endowment the whole race would perish with the first generation. Here is wisdom and goodness!

The dog, the horse and the cow are man's three best friends. The dog is the farmer's "night watchman." No bad treatment or change in fortune in his master alienates his affection. A medical friend once said to me, in this connection, I have more faith in my dog than in many men. What in these days of "condensed milk" would the neglected infant do without the cow? The goat's milk is no substitute, as we all know. While fashionable women are turning their backs

upon their own offspring, willing that they should perish rather than forego the theatre and ball room, the faithful cow is the only recourse. She saves thousands of human lives annually. The absence of milk for one day in London would bring more distress than the failure of Baring & Bro., and a half dozen other big houses.

The horse, "whose neck is clothed with thunder," who mocketh at fear and "smelleth the battle afar off, the thunder of the captains and the shouting," is guided by the whistling lad in the fresh furrow and the little child leads him to the watering.

Having, as we think, defined the limits of animal intelligence, let us endeavor to get an idea of man's mental capacities, and see if there is one or many links between the two. For this purpose I propose a new method of analyzing the human mind or classifying its capacities, or, if you please, giving its dietetics, the food on which it feeds, in which ample place will be found for its powers of imagination, etc. For simplicity it may be regarded as a trinity, but not the trichotomy of the Egyptians and Greeks. The modern theory of Sir William Hamilton is far too complex. In proposing to be original I hope I show no want of respect for learned authority. Too much subserviency to authority blocks progress in all art and science as well as in philosophy. It is proposed in this paper to consider the mind,

1st. In its moral perceptions or its power of comprehending moral truths.

2nd. Its immoral perceptions or passions.

3rd. Its cosmotic powers or conceptions of the natural world, the Cosmos of Humboldt, including, if you please, all physical science. It is very natural that this last division of the subject, from its vastness, should have been most attractive to mankind. It was visible, tangible, always and everywhere. It could not escape us. The fool as well as the wise man had eyes and hands and must needs use them. But one of the Greek philosophers had the true idea when he said the greatest wisdom was, "Nothe se auton." (Know thyself.)

Moral philosophy is more important than natural philosophy or science. Man's happiness is more involved in this Greek aphorism than in all La Plaice's and Newton's discoveries.

The wonderful dome that we carry on our shoulders poised so delicately, is marvelous beyond description and the most marvelous and valuable endowment are its moral perceptions. In its study is involved man's highest happiness. A man must know very little of himself who is disposed to question this proposition. Not only is man's individual happiness involved in it, but the happiness of the entire race.

It is a curious fact that there is no necessary connection between morals or goodness, and intelligence. A man may be a Bacon in learning, and a debauchee in practice, or a Joseph in purity and entirely ignorant of even the simplest rudiments of philosophy.

Attempts were made by the Greeks, especially, to define these moral principles, and direct them into right channels, but they always remind me of men groping in the dark, or of one looking through a low-power microscope in search of germs, to find only a mass of debris; the closer he looks the greater seems the confusion. How vast is the field of morals! It includes the study of the laws of truth, justice, love, faith and all their various products, as mercy, meekness, patience, gentleness, forbearance, honesty, etc. How beautiful is the search for truth in a great criminal case: Astute lawyers, sheriffs and detectives follow a small thread, attenuated as a spider's web, through fens and fogs, over valleys and mountains, over seas and oceans, in the heat of summer and the cold of winter, holding on to this delicate thread till at last it becomes a cord, a chain that binds the strong man in prison walls.

What a golden shield justice throws over innocence when attacked by lion-hearted tyranny, or the viper tongue of slander! With what a steady hand does she hold the scales. What a deaf ear she turns to flattery and fame. She heareth the cry of the prisoner and breaks his bands asunder. The cry of the troubled widow, and gives "beauty for ashes, the oil of joy for mourning."

But what shall we say of love? Though I should "speak with all the tongues of men and angels," I could not describe her. The faith that removes mountains is not equal to her; the benevolence (so-called) that would give all its goods to feed the poor, is not her equal. In honor she "preferreth another, she hopeth all things, endureth all things," seeketh not her own, thinketh no evil, rejoiceth in the truth. What more shall we say of her. Love would open every jail and penitentiary, dry every tear, clothe every ragged child, heal every broken heart.

But what shall we say of faith? Faith in your doctrines, faith in your friends, faith in your God. It binds men together with hooks of steel. It has laid delicate women calmly upon the block, and tied them joyfully to the burning stake. But what says the great philosopher, Paul, of it: "Through faith we understand the worlds were framed by the word of God." "Without faith it is impossible to please God." "Faith subdues kingdoms, stops the mouths of lions, quenches the violence of fire." Men out of weakness are made strong, wax valiant in fight, and turn to flight the army of the aliens. The highest compliment ever paid to man by great authority was to men of great faith, of whom it was said, "The world was not worthy." There can be no peace without it, no commercial progress, no domestic happiness, society would go to pieces without it and chaos reign supreme; what need, then, for

the exhortation, "have faith in man and have faith in God." The man who has no faith in the former has no faith in the latter. This is not generally admitted, but can be logically proved. In morals, as in nature, there are grand massive truths as well as microscopic beauties.

Even the Christian world has little idea to what delicate refinement these great principles, Faith, Justice, Love, Truth, the four corner stones of God's great temple, can attain. They can be seen in the look, the tear drop, the tender tone, the sigh, in the infant's tottering step, and the widow's dying smile. They are like four great rainbows, spanning the Heavens, and beckoning us to the skies. And, better still, they are progressive, so that by steady and persistent effort we may attain the dream of the poet and have

> "A heart in every thought renewed
> And full of love divine,
> Perfect, and right, and pure, and good,
> A copy, Lord, of thine."

It is pleasant—to change the figure—to contemplate the final triumph of these four sturdy warriors, of God's good Providence, as they march forward to the conquest of the world. Do we not feel the conflict within us to-day in every man, the "war among the members?" Volumes have been and many more volumes will be written on this branch of my subject, but I must turn to the consideration of the second part, to-wit: the immoral perceptions and passions of the mind. Alas! what a foul nest of foul birds! what a den of fierce wild beasts! The great apostle of the Gentiles sums them up thus; adultery, fornication, uncleanness, lasciviousness, idolatry, witchcraft, hatred, variances, emulations, wrath, strife, seditions, heresies, envyings, drunkenness, revellings and such like. Seventeen indictments. Of felony, alas! how many misdemeanors! man's charges against his brother, aye, against himself, marvellous honesty! There may be no witchcraft in these days, but there are watered-stocks, futures, and trusts worse than witchcraft.

Suppose it were heralded over the land to-morrow that the people of Paris had become so debauched that no boy under fourteen years could venture from home at night except with a gendarme by his side, without danger of assassination. What horror, what indignation, would fill every man's breast, and yet it has become so well known that it causes no surprise, even in this age of boasted Christian civilization, that no girl, however pure and spotless, can go out at night alone, without danger of an assault, everywhere regarded in the Bible as worse than murder. It will be noticed that of the seventeen felonies above enumerated, this crime stands at the head of the list, while murder is put near the foot. This classification is quite usual in the Bible. He who knew the human heart better than we ourselves, said, "Let him that is without sin cast the first stone."

Unfortunately for man, he cannot sin without consent, and hence he is responsible. It has been proven that some of the bad pleasures of man cannot be enjoyed without intelligent consent. Animals cannot sin because they have no moral nature, and consequently cannot be immoral, in any sense. The shame sometimes exhibited arises from fear of remembered punishment by their masters. Here there is a bridgeless chasm between man and brute. These human passions are said to be instinct, but while that is true in one sense, yet, as before said, they are intelligent and under the control of a healthy will, and are generally exercised, strange to say, under the protest of conscience, when enlightened. How is it possible to explain this strange incongruity? It finds no analogy in the war among the elements in chemistry. Where is the philosopher who will give us the solution?

But I must hasten on to the third proposition, to-wit: The cosmotic perception, or the mathematics of the mind and of nature's laws. While the study of nature has been, as said before, always more attractive than the study of morals, it is nevertheless not so abstract. Nature is tangible, visible, some of her laws are written upon the stones and others in the stars. We find metrical motions in the one and methodical "measures" in the other. To man is given the measure of all the spheres, in the *circle*, without this there would be no astronomy. The "span" is the unit of measure, the parted fingers the idea of "dividers" and angles, in mathematics. Without the eye or without the hand there would be no art, refined or gross, but without either, what worlds of beauty were built by Milton. We degrade ourselves when we exalt the natural above the moral. Nature gives no help to morals, virtue seems not a child of earth.

But let me hasten to the main object I have in view, to-wit, the contrast between animal and human intelligence. There can really be no comparison. It is a matter of contrasts of antithesis. In the animal, intelligence is limited; in man unlimited.

In the animal, intelligence is X; in man the great complex problem of mathematics. In the animal, intelligence is a drop; in man the ocean. In the animal it is a single thread; in man the bolt of cloth. In the animal it is only one stone; in man the great edifice. In the animal there is no identity; in man perfect identity. In the animal no morality; in man it is the highest quality. In the animal satisfaction with the world; in man dissatisfaction. In the animal congruity; in the man incongruity. In the animal no progression; in man endless progression. In the animal insanity is impossible; in man quite common. We are surprised at the tricks of animals and infants

simply because we did not expect any intelligence.

To say, therefore, with Darwin, that there is one link or two "missing links" between animal and human intelligence, is to speak without reason.

Man's highest qualities or perceptions have no existence even in embryo in animals. You cannot weld wood and iron, the chain must be of the same material. A few changes in the anatomy of the chimpanzee would make him a man in form, but what changes in his capacities, would make him man's equal in intellect. One is the intelligent master, the other the ignorant slave.

A block of wood may be of the same shape as a block of marble; a piece of glass, of the form of a diamond; the form of an object has nothing to do with its quality or character.

Other animals besides the chimpanzee have similar organs to those of men; this is true of birds also; the pattern may be the same, but the material without one item of resemblance; one might be of brocade, the other of paper.

Linnæus' dogma, "Natura non facet saltus," may be true of the vegetable kingdom, but finds one notable exception in the animal kingdom. I do not think that it will ever be proved that any fortuitous concurrence of atoms, or arrangement of cells, can produce moral intelligence.

It is not proposed in this paper to discuss its origin, but I would respectfully call attention to the Psalmist's reasonable answers to his own three pertinent questions, to-wit: He that formeth the eye, shall he not see? He that planteth the ear, shall not he hear? He that *taught man knowledge*, shall not he know?

But to conclude: I have endeavored to show that animal intelligence is zero; to multiply it by itself you have zero.

I have also said it is strictly limited, and if multiplied by itself the result is limited. But the powers of the human mind are unlimited; not one, not a thousand links can bridge the chasm between the intelligence of animals and the intelligence of man.

TWO INTERESTING CASES OF FORCED RESPIRATION.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5-8, 1891.

BY GEORGE E. FELL, M.D.,
OF BUFFALO, N. Y.

Sunday morning, March 1, at 3:20 A.M., I was called to the residence of Dr. Harrington, on Franklin St., and there found a young lady who had taken a large dose of morphine. At 3 A.M., Mr. Harrington, Sr., had noticed stertorous breathing. He arose, looked at the patient, but concluded that it was nothing more than a very deep slumber. The condition continuing, however, he called Dr. Harrington, who examined the patient, finding her in a comatose condition, cyanotic; pupils markedly contracted; and a bottle of morphia upon the table. She had written two or three letters which clearly indicated the cause of the trouble.

I immediately proceeded to forced respiration with the face-mask, which resulted in overcoming the cyanosis and producing an improvement in the heart action. We continued forced respiration with the face-mask until 6:30 A.M., when it was observed that the cyanosis was again increasing, and the condition of the patient growing more and more desperate. No evidences of consciousness were present. By hollowing into the ear, ocular reflexes were noticed in a contracting of the orbicularis muscles. There appeared to be no hope of recovery at this time.

With Dr. Harrington's assistance we made tracheotomy, and inserted the tracheotomy tube, as arranged for forced respiration, into the trachea. Connection was then made with the apparatus, and forced respiration kept up. The improvement on the employment of forced respiration per tracheotomy, over that produced by the face-mask, was evident. The chest movements were greater, and the results were more satisfactory in many respects. However, of so serious a nature was the condition of the patient at this time that not one present expected other than a fatal termination. No pulse existed at either wrist; auscultation could detect no heart movement, either on the part of Dr. Harrington, myself, or the students present. Two conditions, however, appeared to indicate that life was not extinct. The pupils continued contracted, and cyanosis did not supervene. The glassy stare of the eyes was present, and outside of the two favorable indications mentioned, it appeared that death could not be far off. At this point Dr. Harrington's father made the remark that if this young lady was made to live, it would be indeed a "miracle." However, I kept up the forced respiration, saying that I would do so a little while longer, "just for the fun of it." In a short time auscultation on the part of Dr. Harrington gave us the satisfactory information that the heart was beating. In the course of a few hours these reflexes were more and more marked, and consciousness supervened. Forced respiration was continued through the forenoon, and until quite late in the afternoon, making some twelve to fourteen hours of continual forced respiration before the patient could be allowed to breathe for herself.

She has made a good recovery.

In this case artificial respiration would at no time have been of any avail to the patient.

Oxygen gas used.

Sunday, March 15, at 11:30 A.M., I was called

to attend Joseph Altiere. A prescription containing phenacetin, morphine and cocaine, in small quantity, had been prescribed by the attending physician, for neuralgia of the stomach. The patient had taken repeated doses, without regard to instructions upon the prescription, until a large poisonous dose of these very dangerous drugs had been taken. At 11:30 A.M., forced respiration with the face-mask was commenced, and quickly overcame the marked cyanosis, which was intensified, undoubtedly, by the phenacetin. With the face-mask forced respiration was kept up all the afternoon, the patient at times becoming conscious. The cyanotic condition seemed, however, to increase, owing to the base of the tongue falling back and occluding the larynx. A ligature was placed through the tongue, and the organ was pulled well up, with the result that the lungs were more readily inflated.

In this case oxygen gas was administered, in connection with the forced respiration apparatus, it being supplied in greater or less quantities, as seemed to be desirable. At times the amount of air passing to the stomach and the bowels was so great as to markedly distend them, thus interfering to a certain extent with the inflation of the lungs by the forced respiration, and indicating one of the difficulties to be met with in forced respiration with face-mask. In the afternoon the patient became comatose, and responded very little to the respiratory work. During the evening it was evident that the patient was not progressing satisfactorily, the influence of the poisons being peculiar in their action, there not appearing to be any elimination of the drugs—although the catheter was used as often as was necessary, and the antidotes which seemed to be indicated, and stimulants, such as digitalis and alcohol, injected hypodermically. At 10 P.M., Sunday night, I made tracheotomy, and forced respiration was then kept up by the direct method. The result, as in the former case, indicated the very great readiness with which the method could be used in the direct inflation of the lungs, and the patient was apparently holding his own. I left for home at 11 P.M., trusting that the patient would be in good condition in the morning. An army of students was present to assist in the work of respiration, and with Dr. Harrington they kept faithfully at work through the night, until 5:30 in the morning. At this time the patient was breathing with comparative ease, and the prospects looked encouraging. However, a spasmodic contraction of the stomach occurred; its contents were ejected with force. Every effort was made to prevent any of the vomited matter from passing into the lungs, but the spasm resulted, however, in the ceasing of the action of the heart; and the labor of eighteen hours was thrown away.

The necessity for something other than manual labor in the forcing of a column of air into the lungs, was strongly demonstrated in this case. Although there were plenty of persons present, what with the students and the relatives of the patient, who performed all the labor required, no one who has not witnessed a case of forced respiration can really appreciate the amount of energy expended in respiring for a human being, be it even so easy comparatively as by the method used in forced respiration.

This is the first extended case in which oxygen gas was administered in conjunction with the forced respiration. The results were satisfactory, but the odds against which we were fighting—the combination of deadly drugs which had been taken—were too much for even an expectation that success would crown our efforts. With morphia alone in large quantity, I believe the patient would have been saved.

But these cases have demonstrated again all that has been claimed heretofore as to the value of forced respiration; and I repeat that the physician who has not seen the results of forced respiration, cannot conceive, even with his knowledge of physiology, its value in the resuscitation of human beings in asphyxia, generally.

TUBERCULIN.

ITS VALUE AS A SCIENTIFIC DISCOVERY, APART FROM ITS THERAPEUTIC IMPORTANCE; TOGETHER WITH A CONSIDERATION OF THE MOST RATIONAL MODE OF EMPLOYING THE PRINCIPLE INVOLVED IN IT.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May 5-8, 1891.

BY S. K. JACKSON, M.D.,
OF NORFOLK, VA.

Whatever may be the estimate formed of Koch's lymph—whether or not it shall be determined to have a curative influence in the class of diseases for which it has been proposed, it must be recognized as of incalculable value in illustrating, or rather, I should say, in demonstrating, the truth of one of the most important principles of biological science.

It is running but little risk to prophesy that this generalization will, before long, revolutionize the practice of medicine, by compelling a resort to Nature's mode of curing disease; that is, by using the means that Nature employs for inhibiting or arresting the life-processes of organisms which are known to be the causative factors in the production of certain diseases.

While recent clinical records have caused a great distrust in Koch's method as a safe remedy

in pulmonary tuberculosis, no one has doubted, or questioned, its power of producing a rapid necrosis of the diseased tissue. The *modus operandi* by which this necrosis is effected, is the important physiological and philosophical fact which invests it with the value which we now propose to consider; and if itself should not prove to be the efficient curative agent for which we have been looking, it furnishes a most valuable suggestion for the treatment of this most refractory condition, and confirms the theory which was first enunciated by me some twelve years ago, and upon which is based the practice which I have pursued ever since, and with most remarkable results.

If tuberculosis were a self-limiting condition, and conferred an immunity from a second attack, then Koch's lymph would be of inestimable value as a prophylactic, and second only to vaccination as a blessing to the human race. But as such is not the case, it must, for the present at least, be relegated to its position as a scientific fact, without the practical value it was at first supposed to possess, so far as is known at this time.

Let us, for a moment, consider the nature of Koch's remedy, and see how far it conforms to the biological law to which I have alluded.

It is a poison formed as a consequence of the life-processes of the bacillus tuberculosis, preserved in glycerine to prevent further decomposition. In other words, it is the effete excretory product of the microörganism causing tuberculosis employed for the purpose of inhibiting its life processes, and thereby arresting its work of destruction, on the principle, or in accordance with the law, that "no organism can live in its own excreta."

I acknowledge that this is not the universally accepted idea concerning it, for Dr. Solis-Cohen, in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, xvi, 11, p. 370, speaks of it as the product "of a mutual reaction of the bacillus and the tissue, dissolved in glycerine, and by the formation of which the microbes are deprived of food and starve to death." This ignores the poisonous effects upon the microbes.

That we may be sure of giving a fair interpretation of it, let us refer to Koch's own account of its nature and *modus operandi*, and use his own words.

In his November paper, Koch gives the following explanation of the process: "The tubercle bacilli, produced when growing in living tissue, the same as in artificial cultivation, contain certain substances which variously and notably unfavorably influence living elements in their vicinity. Among these is a substance which, in a certain degree of concentration, kills or so alters living protoplasm, that it passes into a condition that Weigert describes as a coagulation necrosis. In tissue thus become necrotic the bacillus finds such unfavorable conditions of nourishment that it can grow no more, and sometimes dies." Or as expressed in McDill's translation of Koch's January paper: "The bacillus then finds such unfavorable conditions of nutrition that it is unable to keep on growing, and under certain circumstances even dies off." That he considered the microbe effectually disabled, if not killed, is evident from the closing words of his August paper. He says: "I am only able to draw one conclusion from these researches, viz.: the possibility which exists from this way of paralyzing absolutely the action of the microbes in the animal."

Were it not for testimony which he subsequently furnished, we might suppose that he had changed his mind by the time his November paper was published; in this he says "The necessary histological investigations are not yet complete; but this much is certain, that there is no question of a destruction of the tubercle bacilli in the tissues, but that only that the tissue enclosing the tubercle bacilli is affected by the remedy."

We might be in doubt as to the meaning of this faulty English, were it not for the following emphatic declaration: "To recapitulate, the remedy does not kill the tubercle bacilli, but the tuberculous tissue, and this gives us clearly and definitely the limit that bounds the action of the remedy."

It is difficult to reconcile this statement (which may be attributed to incomplete histological research) with the following: "As a rule, the number of the bacilli decreased only when the expectoration began to present a mucous appearance. They then entirely disappeared, but were again observed occasionally until expectoration completely ceased."

This positive assertion is worth more than mere speculation, and leaves us in no doubt as to the death of the bacillus.

In reference to this point Dr. Ernest Laplace remarks (*Times and Register*, January 17, 1891): "Koch has determined that the treatment does not destroy the bacillus, the seed of the disease. What is destroyed is that which has developed from the tissues under the irritation of the bacillus. If the remedy only did this, Koch's object would not be reached." And further: "There is one means left for curing the tuberculous process; that is, that the lymph should so act upon the system as to render it unsuited to let the bacilli of tuberculosis develop in it." "In other words, Koch hopes that the remedy will confer immunity against tuberculosis in man, as he says it does in the guinea pig." And further: "We have all reasons to surmise that the lymph is directly or indirectly the result of cultures of the bacillus tuberculosis."

From these extracts from Koch's several papers it is evident that he considered this substance,

which is the result of the life-processes of the bacilli (their excreta), as furnishing a medium unfavorable to their nutrition, and even, sometimes, causing them to die. This conclusion, it will be seen, corresponds precisely with the law enunciated by me in the year 1879.

In my report on Advances in Hygiene, etc. (Trans. of Medical Society of Virginia, 1879, p. 56), occur these words: "It is not wholly for want of pabulum that it dies, but it is actually destroyed by the products of the decomposition, whatever be the products, etc." In a foot-note I claim that this furnishes "an additional indication for the employment of ammonia in the treatment of typhoid fever, not only to restore the nitrogenous waste, etc., but also to saturate the system with what the organism producing the disease is known to exhale, and thereby diminishing or destroying its vitality." And further, on page 72, in speaking of the gaseous products of putrefaction and fermentation, I say: "These gases may, if the air be sufficiently saturated with them, arrest the decomposition of which they are the result, by destroying the life of the organism, on the principle stated, viz.: that life cannot be sustained in its own excretions."

Again, in my report on Advances in Practice to the Medical Society of Virginia in 1883, published in the Transactions of that year, p. 66, occurs this passage, p. 75: "If the theory, first enunciated by me, as far as I know, at our Alexandria meeting (in 1879), be a law, this may furnish us with a guide in the selection of our germicides. If it be a law that 'no organism can live in the effete products of its own life, in its own excreta,' then the most rational means of destroying it, would be to saturate it with the resulting products of its vital processes; for, as has been shown, these products become poisons and arrest the growth and development of the organism which generated them, and finally cause their death." Then follow some illustrations of this principle, *e. g.*, the effects of carbonic acid on the organism producing fermentation—of sulphuretted hydrogen, of ammoniacal gas, etc.

Again, this principle is further insisted on in a paper on "The Treatment of Typhoid Fever," read before the American Medical Association (Washington meeting), in 1884, in which paper, published in THE JOURNAL of August 16, 1884, p. 183, occurs this passage:

"In a paper recently read before the Virginia State Medical Society, I have contended that we are furnished with a key to the selection of germicides by a law which, as far as I know, I have been the first to enunciate. I claim that it is a law that no organism can live in its own excreta, in the products of its own vital processes. When carbonic acid gas is the excretory product, how certainly does carbonic acid destroy the life that produced it. If alcohol be the product of the life-process, what better agent have we for arresting that process than alcohol itself? and how generally is it used for that purpose! If sulphuretted hydrogen be the exhaled excretion, all acknowledge the efficacy of sulphur and its compounds in arresting the decomposition giving rise to it. So also, if ammonia be the result of the vital processes of an organism, as is claimed in the case of typhoid fever, then by this law, we have a right to infer that ammonia is the proper and efficient germicide. This furnishes us with an additional indication for employing the salts of this nitrogenous base, for it not only supplies the nitrogenous waste, as we have contended, but also destroys the vitality of the organism which causes it."

In an editorial of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, October 10, 1885, p. 405, occurs the following allusion to this doctrine, with an extract from the same paper on the Ammonia Treatment of Typhoid Fever: "Why or how it (nitrate of ammonia) reduces the temperature of enteric fever, cannot be definitely stated; but he (Dr. Jackson) thinks that 'it is by inhibiting the life-processes of the microbe, by saturating it with the products of its own life, thus either crippling its vitality or altogether destroying its life, on the principle enunciated by him several years ago—no organism can exist in its own excretions, the product of its own life-processes.'"

I hope I may be excused for producing another extract on this important subject.

In a paper read before the Ninth International Medical Congress of 1887, on "Natural Agencies inhibiting the Life-processes of Pathogenic Organisms, considered with a view to their therapeutic employment," published in the Transactions of said Congress, Vol. iii, p. 396, I have insisted on this as one of these agencies, thus: "Next to the destructive effects of extremes of temperature, the most clearly recognized natural agency which affects the vitality of pyrogenic organisms is the production, in the medium in which they live, by means of their vital processes, of substances which are poisonous to them and cause them to die; that is, they are killed by the products of their own life-processes." "No living being can long be kept alive when so confined in the medium in which it exists, as to absorb the products of its own life-processes, its own excreta, etc., illustrated by fish in unchanged water, and by plants cultivated continuously on the same soil, etc. The excretions, then, of all living organisms are inhibitory to their life-processes, and to avail ourselves of this law with a view to its therapeutic employment, requires a minute study of diseases of zymotic origin, and may necessitate a new treatment, directed to the destruction of the particular organism which may be ascertained to be the pa-

thogenic factor in each of them." If any one is disposed to doubt the general proposition upon which this study is founded, let him examine closely any one of the various fermentations, etc.

Then follow instances in which this plan of treatment might be adopted, and also an enumeration of anti-ferments—quinine, claimed to act on this principle; dyspeptic conditions with eructations of sulphuretted hydrogen, relieved by condiments containing sulphur, *e. g.*, garlic, onions, asafœtida, etc., or by the salts of sulphurous acid; the saturation of the system with ammonia in the typhoid state, as there is known to be nitrogenous waste with ammoniacal exhalations. And further, what is now more to the point, in elucidating the treatment of the tuberculous state, I allude to the exhalation of sulphuretted hydrogen from the decomposition of the sputum of tuberculous subjects, which probably suggested Bergeon's plan of infusing into the system this very gas, and also to my own treatment by the free use of the salts of sulphurous acid and the sulphides. I do not know whether subsequent experience has established the efficacy of Bergeon's method, but with regard to my own, the results in eight cases, up to this time, have satisfactorily proved its value.

I admit that the importance of this subject demands a much more extended investigation than I have been able to give it. My inference as to the sulphurets being required, was derived merely from perceiving the odor of sulphuretted hydrogen from decomposing sputa.

That these sulphur salts have a most decided effect upon the hectic paroxysms, any one can determine for himself. In a very marked case which I was able to watch closely, I could readily prevent the return of the hectic chill, fever and colliquative sweating by means of the bisulphite of soda.

The eight cases which I could report as either absolutely cured or decidedly improved up to this time, afford a good demonstration of the correctness of the principle for which I am contending.

While the means above alluded to were my reliance for the control of the hectic condition, other means were, of course, used for general nutrition and building up of the system, the relief of dyspnœa, diarrhœa, etc. Cod-liver oil has been but little used in any of my cases, and alcoholic stimulants only at periods of extreme prostration.

Besides the constant use of the sulphur salts, the chief means employed were Parrish's syrup of the phosphates, inhalations of vapor of turpentine with carbolic acid and iodine, which latter was found to materially relieve the dyspnœa.

This plan of treatment, I contend, effectually arrests the tuberculous process by crippling or destroying the bacillus, without causing the necrosis of the diseased tissue, which is so fatal to the success of Koch's method.

I do not pretend to claim that sulphuretted hydrogen is the only exhalation from the bacillus tuberculosis which might furnish an indication for treatment, for it is not only possible, but highly probable, that a minute chemical study might reveal some other product resulting from the life-processes of this organism, which might suggest some other agent which would be still more efficacious in arresting its vitality and checking its predatory attacks upon the system.

All I contend for is, that it is upon this principle the treatment should be conducted, and upon this line we should search for the agent most destructive to its life.

This also appears to be the conclusion arrived at by Koch and his collaborators, and it is curious to note the similarity of the language employed by them in the year 1890, to that used by me in 1879, at least three years before the bacillus tuberculosis was discovered.

A PATHOLOGICAL CONDITION OF THE LUNGS, HITHERTO UNDESCRIBED IN THIS COUNTRY, BUT WHICH IS NOT INFREQUENT.

Read by Title in the Section of the Practice of Medicine and Physiology at the Forty-second Annual Meeting of the American Medical Association, at Washington, D. C., May, 1891.

BY F. PEYRE PORCHER, A.B., M.D.,
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During the course of a very prolonged service in hospitals, I have repeatedly observed a condition of the lungs which is markedly distinct and characteristic, which I have not seen described.

A full account of this appeared in the *New York Medical Record*, October 19, 1889. I will give here a succinct review of the main features and symptoms, in order that we may decide whether it is only a pathological state, or whether it should rank as a distinct disease.

Patients presented the following symptoms: Dulness or sub-dulness, generally at the middle, lateral or posterior portions of the chest; there was always imperfect respiration; scarcely any râle present, or if so sparsely disseminated, and generally the subcrepitant; or perhaps there was only rough breathing. The condition was consequent on antecedent morbid states, and was discoverable weeks before death, if a fatal result ensued. There was not necessarily fever or elevation of temperature; there did not exist evidence of any acute inflammation, or any of the well-known diseases of the chest—no phthisis, pneumonia, bronchitis, pleurisy, emphysema, hydrothorax, etc. The positive physical signs of these diseases were all absent—there were no crepitant, or sibilant, or crackling râles; neither were there pain or rubbing sounds. So all the diseases which these signs indicated had to be excluded.

To continue the citation of positive and negative symptoms: The respiratory murmur, though not normal, was not absent, for the lung was still pervious to air; the vocal resonance, or what I prefer to call the reverberation of voice, was slightly affected; some complementary respiration might be present, but this was not very decided, because there was no absolute consolidation. Scarcely any dyspnœa may exist, and the cough may be moderate or absent. Hepatization, solidification and asthma had also to be excluded, for there was no absolute dulness, complementary or puerile respiration characterizing the two first, or crepitant râles to indicate the last. The crepitant râle, the fever or the rusty-colored sputa essential to pneumonia were not present. There were no frothy, watery, blood-stained expectoration, blueness of lips, lividity, or cold extremities, as in extreme cases of œdemas; no pure hyperæmia—for in our cases we have blood and *serum* mixed; no pulmonary congestion, for there is "no copious, watery, blood-stained expectoration" which accompanies this, which is, besides, an acute disease.

Whenever an autopsy was afforded in such cases, the physical evidences of the diseases above cited were absent, *and there was invariably present a large amount of bloody serum exuding from the cut surfaces, and it would flow most freely when the lung was squeezed.* There was plainly, therefore, a gross morbid fact which was the chief feature, which had to be noted and accounted for, and which, if a name was required, must necessarily be embraced under such appellation.

The conditions with which our cases would be most likely to be confounded would be the hypostatic congestion, or the hypostatic pneumonia of recent authors, or infiltration of the lungs. But there are none of the physical signs of pneumonia present; and the term infiltration is too vague and undefined—for infiltration may either follow pneumonia or be tubercular, and our cases were neither of these.

We must also decidedly exclude the term hypostatic congestion in the old sense of the term, which implied a condition of stasis just preceding death, dependent upon recumbency, position, etc.

A name was needed for the symptoms which had been isolated, and I long since began to designate the disease referred to as "engorgement of the lungs"—serum being always mixed with blood. I was compelled to the use of these terms because they only were true, applicable, and essential in describing and interpreting the condition.

My cases of engorgement of the lungs exist for days and weeks, and do not depend, as was stated, upon the accidences of position, recumbency, stasis of the blood, age of patient, or want of vitality—for the powers of life are not specially enfeebled.

I published a note in the *American Journal of the Medical Sciences*, as far back as October, 1869, under the caption: "Frequency of Serous Engorgement of the Lungs," but have at last been able to get some confirmation of the probable correctness of my observations in Juergensen's paper entitled "Diseases of the Respiratory Organs" (Ziemssen's Cyclopædia, Vol. v, p. 236). In this Piorry is quoted as having pointed out a distinct form of disease, corresponding in great measure with my own observations as stated above.

It is best to quote what Juergensen says (*loc. cit. Sup.*): "Hypostatic pneumonia, and hypostatic conditions of the lungs, were first recognized as a distinct form of pulmonary disease through the labors of the French writers. Pre-eminent among them is Piorry, who handles the subject with great clearness, and whose teachings are based upon a rich experience. He likewise gave the disease its name." "Piorry proved by experiments that a hypostatic condition diagnosticated during life, did not alter its location after death, under the laws of gravitation. As Piorry made his diagnosis long before death, it was evident that this condition did not result during the death struggle. By means of these experiments *hypostasis ceased to be a condition of but little pathological significance.*"

To quote still from Juergensen: "Does an *inflammation of the lung* actually exist? Is the term 'hypostatic pneumonia' correct? Here we must agree with Piorry, who answered this question in the negative in his nomenclature, and afterwards still further confirmed this opinion." "He calls this form of disease *pneumonémie hypostatique*, and gives as a synonym *engouement pulmonaire*."

So I am sustained by Piorry, not only as regards the existence of a special disease, and in the non-existence of an inflammation of the lung, but also in the use of the identical designation, *engouement pulmonaire*, which may be equivalent to "engorgement of the lungs."

Desiring to be brief, I will yet introduce the following from the paper cited above, and which may be compared with my own observations: "The *local symptoms* of hypostasis *demonstrable by physical examination* are the following: At first diminished resonance on percussion, beginning at the lower angle of the scapula, and on auscultation a lessening, sometimes a cessation, of the respiratory murmur, which is vesicular, or may be quite indefinite in character. At the point of attack the local fremitus is weak. If hypostasis is complicated with a local catarrh, new features foreign to the former disease will appear. Mucous râles, for example, are usually absent in simple hypostasis. The dulness on percussion and the auscultatory signs, as a rule, extend slowly from *below upwards*. There is a period at which absolutely no breathing is to be heard over the consolidated portion (Piorry). Then mucous

râles gradually become audible, those in the larger tubes appearing first. In case of a fatal termination extensive œdema of the lungs supervenes, accompanied by auscultatory signs peculiar to that condition." I have not been able to confirm this latter observation, never finding the crepitant râle, which Laennec taught us is distinctive of œdemas, as it is of pneumonia, and the congested area around a hæmorrhagic spot.

Piorry does not mention the causes of the condition he describes. In my paper in the *Amer. Jour. of the Med. Sciences*, I described them as "the result of neglected catarrhs, previously existing bronchitis, or pneumonia in a chronic form, and sometimes the engorgement is partly hypostatic; but this term should be reserved for post-mortem changes, or those occurring just before death."

Both of us, therefore, recognized and marked out a collection of symptoms which are often found associated, but which had not previously been designated as characterizing a special diseased condition. This collection, in my opinion, can have no other name than "engorgement of the lungs;" and all such terms as pneumonias, hyperæmias, congestions, œdemas, etc., must be rejected.

The merit of Piorry consists in his freeing hypostatic processes from the imputation—ancient and deep grounded in all writings—of occurring just before death; and giving it its true place as a diseased condition of variable duration, to be recognized during life.

If my cases of engorgement of the lungs are alleged to be only forms of hypostasis, which I do not believe to be true, I also recognized them as unconnected with position, the decubitus, or the death struggle, defined their *ante-* and *post-mortem* characteristics, as existing and to be studied and treated long before dissolution.

Auscultation and percussion being a true science, founded on variable physical and morbid conditions, there is no obscurity or difficulty about the symptoms furnished by the disease we are discussing. These symptoms, as in every other affection of the chest, arise out of and correspond necessarily with the internal morbid changes which exist, viz.: engorgement of the lungs.

THE MEDICAL LAW OF ALABAMA.

The penalty bill, as it passed the legislature, provides that any person practicing medicine or surgery in that State without having first obtained a certificate of qualification from one of the authorized Boards of Medical Examiners of the State, shall be guilty of a misdemeanor, and on conviction thereof, shall be fined not less than twenty-five dollars nor more than one hundred. Provided, that this act shall not apply to any doctor practicing medicine in Alabama who is a graduate of a reputable medical college, and who has complied with the law by having his diploma recorded by the judge of Probate in the county in which he is practicing.

DIGITALIS IN THE FIRST AND SECOND STAGES OF PNEUMONIA.

Read by Title, in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C., May, 1891.

BY J. W. CARHART, M.D., C.M., D.D.,
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MEMBER OF AMERICAN MEDICAL ASSOCIATION, TEXAS STATE MEDICAL ASSOCIATION, AUSTIN DISTRICT MEDICAL ASSOCIATION; AUTHOR OF SUNNY HOURS, POETS AND POETRY OF THE HEBREWS; FOUR YEARS ON WHEELS, ETC.

Ziemssen gives 50 per cent. of deaths from pneumonia following measles. He lost one-half of his pneumonia patients under one year of age; two-fifths of those from one to three years; and one-fourth of those above three. The ratio of deaths from pneumonia among those of advanced years, and enfeebled by age is even greater. The disease prevails to an alarming extent in the State of Texas, particularly at certain seasons of the year; and as a consequence, I have been led to make somewhat careful investigation into the nature and treatment of the disease, and the cause of the very large death-rate amongst us, which, I have no doubt, will equal that reported by Ziemssen. Whilst there are many factors that contribute largely to swell the mortality record in this disease, such as insufficient clothing, uncomfortable dwellings, exposure in camp-life, improper sanitation, inefficient nursing, bad habits as it regards the use of tobacco and alcoholic stimulants, the one I have chosen for discussion in this short paper is not the least of them all. I am persuaded that the use of digitalis in the first and second stages of this disease is responsible for the death of multitudes in my State, Texas; and I hope, through this means, to call the attention of the profession to the subject, and thus save many valuable lives and relieve much suffering.

In order to a clearer comprehension of our subject, it will be well for us, in the first place, to consider the physiological action of the drug in the condition of health. Here we find, not only a variety but a decided conflict of opinion among writers; a conflict which is unfortunate, not to say unjustifiable. There are many established facts, however, upon which most, if not all, writers are agreed.

"Fish placed in a weak infusion of the plant die in spasms, with the ventricle of the heart contracted. Digitalin used hypodermically in frogs occasions a tetanoid rigidity of the muscles and an irregular, tonic contraction of the left ventricle of the heart, with slowness and unsteadiness of its rhythm. The auricle does not seem to participate in this action of the ventricle, but becomes distended as the capacity of the ventricle diminishes. At the same time, the pulse rate declines and the blood-pressure increases. . . . . Experimental investigation has demonstrated that large doses of digitalin pro-

duce marked contraction and even a complete closure of the capillary vessels, a condition which necessarily involves an increased blood-pressure in the larger arteries. . . . . The auricle does not participate in the contraction affecting the ventricle, but becomes distended by the accumulated blood. . . . . Digitalis is held to act on the vaso-motor centre, and thus to produce contraction of the peripheral arterioles."

In small doses, digitalis and its preparations primarily increase pulse-rate and tension, and if continued will lower the pulse-rate without diminishing the tension. The supply of arterial blood is everywhere diminished under the influence of the drug, owing to the tonic contraction of both the left ventricle and of the arteries themselves.

All the heart-muscles are not subject to contraction in an equal degree, under the influence of digitalis, but chiefly those of the left ventricle. It thus tends to obstruct cardiac circulation; and by preventing free passage of blood through the heart tends to produce death from syncope.

It certainly depresses the entire nervous system, if administered in sufficient doses to produce anything like its physiological action; impairs digestion, diminishes urination, retards respiration and interferes with the nutrition of the heart itself.

Digitalis as an antipyretic is valueless. If any antipyretic effects should be produced it would be accompanied by disquieting results, and a tendency to heart paralysis.

The result of various experiments proves that digitalis does not in the least modify favorably any acute inflammation, and especially pneumonia, pleurisy and pericarditis; but that, on the contrary, it exposes the patient to the risk of sudden death.

It is now in order for us to get as clear an idea as possible of the pathological conditions in pneumonia that we may understand the effects of digitalis in the first and second stages.

It will not be necessary, for our present purpose, to discuss the fine distinctions that are made in this disease, such as bronchial pneumonia, catarrhal pneumonia, and lobular pneumonia.

The term broncho-pneumonia will sufficiently indicate the form adapted to our purpose in this discussion.

The lungs are made up of bronchi, air-passages, alveoli, pulmonary pleuræ, and connective tissue stroma, containing blood-vessels, lymphatics and nerves.

In pneumonia, of the type under consideration, the common course is for the inflammatory invasion to proceed from the larger to the smaller air tubes, thence to advance into the finest, to the capillary bronchi, whence it communicates the inflammation to the terminal air passages, and alveoli.

This process of invasion may be almost simultaneous and rapid; or it may take several days or weeks.

The result, sooner or later, is the involvement of the bronchi and more or less lobules of pulmonary hepatization and possibly atelectasis.

I am aware that from a strictly pathological standpoint we may not speak of the three stages of the disease as the stage of inflammation and engorgement, the stage of infiltration and red hepatization, as the result of engorgement; and the final or third stage of resolution, in favorable cases; or that of gray hepatization and possibly atelectasis premonitory of dissolution; and yet, clinically, this division would seem to be correct, and to be very serviceable.

In order to a fuller understanding of our subject, let us consider the condition and function of the lungs in the first and second stages of the disease; and the resultant effect upon the circulatory apparatus.

In the early stages the bronchi contain more morbid secretions in the form of clear viscid mucus, whilst in subsequent stages they are filled with creamy pus. There are sometimes found subpleural accumulations of somewhat inspicated, yellow secretions, contained in dilated alveoli, or in small globular dilatations of terminal bronchioles. They are probably caused by the secretion of particles of bronchial secretions into the alveoli in the forcible inspiratory effects which follow paroxysms of cough.

"The lung itself," says Pepper, "exhibits, associated in varying degrees, congestion, œdema, emphysema, collapse, and pneumonic consolidation."

Juergensen showed, twenty years ago, that there was stagnation in the lungs rather than an active hyperæmia, which results in the weakening of the heart. He also showed that the lung consolidation not only presented more or less obstruction to the pulmonary circulation, and hence necessitated increased action on the part of the right ventricle; but owing to the diminished respiratory surface, this ventricle is obliged to do more work in order that the proper interchanges of gases may be effected in the lungs.

It is important for us now to consider the effect of the above conditions of the lungs on the heart and circulation and we shall then be prepared to study the effects of digitalis in these cases.

It matters but little, so far as our present purpose is concerned, whether pneumonia be considered a systemic disease, with local manifestations in the lungs, or whether it be regarded as primarily affecting the lungs with systemic consequences.

We find as a clinical and pathological fact, the lungs engorged, swollen and hot, whatever may be the etiology; with blood stains; followed by hepatization and infiltration, and a consequent

bstru ction of circulation in the fine network of apill aries.

As a result of this condition of things we find a lack of aeration of the blood with consequent carbonic acid poisoning of the whole system.

In consequence of the obstruction to the passage of blood through the lungs the pulmonary vein is inadequately supplied even with a partially aerated blood stream. The blood coming to the left auricle and ventricle is hot in consequence of the extraordinary heat in the lungs. This hot, partially aerated blood stream stimulates the heart to greater activity, whilst its nourishment, furnished through the corrinary arteries, is inadequate to its overworked condition.

"The longer this condition exists the more rapidly the heart will be overworked. As the irritability of the excito-motor ganglia and the tone of the vagus also reduced by the defective oxygen supply."

Owing to the back pressure, so to speak, upon the venous blood stream, from the right heart, caused by the blood stasis in the lungs, we have extreme venous tension, and intense strain upon the right heart.

In the onset of the disease we have a contracted condition of the capillaries, particularly of the periphery of the body, which adds to the venous tension.

We now have labored respiration, owing to Nature's effort to compensate for the restricted active lung area; we have a diminished, and intensely inadequately aerated blood stream from the lungs, through the pulmonary vein to the left heart—we have a heart stimulated to frightful tension, in most cases, by the overheated blood, and inadequately nourished by viciated blood through the corrinary arteries—we have an inadequate, deteriorated arterial supply, with capillary and venous engorgement.

With this condition of things we are told to give digitalis to relieve the dyspnœa and strengthen the heart.

Dr. A. L. Loomis, writing on croupous pneumonia, in Pepper's system of medicine, Vol. 3, pp. 346, 347 says: "A careful study of the pathology of pneumonia not only leads one to the conviction that venesection must do harm, but it strongly contra-indicates the employment of all those remedial agents which have been used to arrest a simple pulmonary inflammation."

He further says, "Veratria is claimed to be a cardiac depressant; and this fact should make us hesitate before we administer it in pneumonia. It acts promptly in slowing the pulse but its effects are only temporary, and when used for a couple of days the large doses that are necessary to bring about the desired results interfere with the nutrition of the patient, often causing vomiting and diarrhœa. Aconite is also a cardiac sedative, but my experience with it has convinced me that it is, in all respects, inferior to veratria. Digitalis, which may be regarded as a cardiac stimulant, is to be preferred to either veratria or aconite. It not only lowers temperature, but lessens the frequency of the pulse, steadies it, and produces, in the majority of cases, its well known tonic action upon the heart.

Its use in children is sometimes followed by an intermittent pulse, but it is a symptom of no dangerous import."

Barring the cases of pneumonia in children, in anæmic and in aged persons, I would, with all respect for Dr. Loomis, ask him why not practice venesection in extreme venous tension in the stage of engorgement? We are certain that the procedure discreetly used, has saved many valuable lives, and if practiced in New York City would reduce the fearful death-rate there from this increasing disease.

I will now quote an authority of equal eminence with Dr. Loomis, in reply to his theory that medical agents should not be used to lower the temperature in this disease; and against his advocacy of the use of digitalis.

This authority says, speaking upon the very same subject, croupous pneumonia, "In all severe types of croupous pneumonia there are two prominent sources of danger; heart-insufficiency and high temperature. There are, consequently, two prominent indications for treatment, viz.: to sustain the heart and reduce the temperature." The same authority further says, "Digitalis of late years has been extensively used to counteract heart insufficiency, but it is very uncertain in its action in the heart-insufficiency of pneumonia, and has seemed to me more frequently to do harm than good. The nervous element of the heart failure contra-indicates its use."

You may be curious to know who my authority is, so plainly and positively, and, as I think, unanswerably contradicting Dr. Loomis; and I must tell you that it is Dr. Loomis himself, writing subsequently to the first quotation I have made from him.

We are told that digitalis reduces temperature, is a heart stimulant, slows and steadies the heart's action in pneumonia and relieves dyspnœa, and consequently should be used, even in the first and second stages of this disease.

It is yet to be proven that it lowers temperature under any circumstances, except where it kills. It also remains to be proven that it slows and steadies the heart's action in the first and second stages of the disease, and that it relieves dyspnœa.

On the other hand, I affirm, and on the authority of eminent observers coupled with my own experience, that in most cases in the first and second stages it increases dyspnœa, stimulates an already over-stimulated heart, renders the pulse

unsteady and intermittent, as Dr. Loomis has said, tends to produce heart-paralysis, contracts the capillaries and thus adds to the blood stasis in the lungs with increased venous tension and all its consequent train of evils. If pushed in the conditions to which I have referred it will almost inevitably produce death.

Veratria, with morphia and atropia, until the third stage commences, in most cases, slows the heart's action without depression; dilates the capillaries, thus relieving the venous tension and the right heart—relieves dyspnœa—conserves the vital forces—reduces temperature and lessens the inflammatory process.

If there is dicrotic pulse, and especially from the use of digitalis, veratria, morphia and atropia will relieve, as I have witnessed in multitudes of cases.

They should neither be pushed to their unpleasant consequences, since the desired results can usually be obtained without.

THE REPORT OF A CASE OF FATTY URINE ACCOMPANYING AN ABSCESS IN THE RIGHT ILIAC FOSSA—RECOVERY.

Read in the Section of Practice of Medicine and Physiology, at the Forty-second Annual Meeting of the American Medical Association, held at Washington, D. C. May, 1891.

BY J. P. CONNELLY, M.D.,
OF WILLIAMSPORT, PA.

Mrs. W., colored, aged 27, born in Pennsylvania, and never resided outside the borders of the State. Gave birth to a living child at 16; has never been pregnant since. Had good health for the first five years following the birth of her child. During the last six years, has had irregular chills followed by fever lasting from two to five days. No disturbance of the menstrual functions. Bowels have always been regular, and she never had pain in the region of the cæcum. On Thursday, January 9, 1890, she was taken with headache and backache, and then a severe rigor followed by high fever. I saw her on Saturday, January 11. She had then temperature 104°, pulse 120, a heavy white coat on tongue, and in addition to the general symptoms accompanying fever, complained of a pain in the right iliac region, where a deeply seated tumor, giving an obscure sense of fluctuation, could be felt. It was about the size of a croquet ball, slightly ovoidal in shape, and dipped down into the pelvis, displacing the uterus to the left.

She stated that since Tuesday, January 7, two days before the rigor, she had noticed fat in her urine, and showed me some which contained large broken pieces resembling tallow.

To avoid a possible error, the patient was requested to pass urine in my presence, which was done. Floating upon the surface of the warm urine, could be seen large quantities of fat, resembling castor or olive oil. It rapidly solidified upon cooling, to the consistency of beef tallow, and was of a yellowish white color.

The amount of urine passed in twenty-four hours was 24 fluid ozs. In this the fat, when collected and warmed, measured 4½ fluid ozs., and weighed, when moulded into a cake, 3½ ozs. avoirdupois.

The urine was clear, without sediment, color amber, reaction acid, specific gravity 1020. No albumen, tests used were heat and nitric acid and Heller's test. No sugar.

Fat was passed in about the same quantity for eight days, when a large amount of pus was suddenly discharged with the urine. The fat then immediately and entirely disappeared.

Pus was passed in gradually diminishing amounts for about three months.

The patient slowly improved and in about five months was apparently restored to health, and has remained so to the present.

No cod-liver or other oil had been taken before or during this period.

The blood was frequently examined for falaria, but always with negative results.

So far as my knowledge goes the case is unique, in the amount of fat passed, the time at which it was passed, and in the subsequent recovery of the patient.

In the previously recorded cases, the fat seems to have been passed in small amounts, except in the cases of Dr. Johnson and of Dr. Cushing. Dr. Geo. W. Johnson's case was one of calcareous disease of the pancreas, published in the *American Journal of the Medical Sciences*, October, 1883, p. 427, where the fat is said to have passed in such quantities as to "float when cool in greasy flakes on the surface."

Dr. E. W. Cushing published in the *Boston Medical and Surgical Journal*, February, 1881, p. 242, the report of a case of abscess in the left iliac region, in which, several days after the appearance of foul pus in the urine, "at the end of catheterization pure, clear oil ran out, in volume about one-fifteenth of the urine." This continued, with occasional intermissions, for three days. One week after its first appearance, death ensued. "On opening the abdomen a large, foul collection of pus, containing an abundance of pure oil and large strings and pieces of sloughing fat, was encountered in the left abdominal and iliac region. Near the exit of the left ureter was a small opening communicating with the abscess."

My patient, unlike Dr. Cushing's, passed the fat not during but before the appearance of pus, and it seems impossible for it to have been due, as in his case, to sloughing adipose tissue; because during the passage of the fat, there was absolutely no trace of albumen or pus in the urine.

While unable to explain the phenomenon, it seems to us to have been a pressure symptom, as it occurred only the last week prior to the opening of the abscess, and ceased when the pressure was relieved.

Neither are the conclusions of Dr. Cushing borne out "that such cases are sure to terminate fatally, unless by opening and counter-opening, a free drainage and disinfection can be carried out."

THE OPTICIAN AND OPHTHALMOLOGY.

BY GEORGE M. GOULD, M.D.,
OPHTHALMOLOGIST TO THE PHILADELPHIA HOSPITAL, PHILADELPHIA, PA.

The paragraph by Mr. Henry A. Riley, in THE JOURNAL of May 2, entitled *Cosmetics and Spectacles in Court*, is one of a thousand illustrations constantly reappearing with sorry monotony, of the fact that when a layman tries to say anything about medicine, he, with the most delicious unconsciousness, takes the side of ignorance and untruth, makes a mess of what he tries to say, and if his words have any weight he injures the cause of scientific medicine. It is a strange fatality akin to that of the success of the patent medicine man, and the enthusiastic acceptance by otherwise intelligent men of the impudent nonsense of homœopathy, faith cure, etc. Mr. Riley's words are few, but as representative of the half-formed opinion of perhaps many others, they should have been excluded from the pages of a journal caring for scientific medical progress, and hence require a dozen words of contradiction.

The first sentence is true, but not as supposed by the gentleman. The optician *does* "hold a doubtful position in regard to the practice of medicine," and it is because homœopathy holds such a position, and because supposedly intelligent people encourage the continuance of this doubtful position, go to an optician who knows nothing about this work for correction of optical defects of the eye, instead of going to one who with the study of a lifetime can learn but a small part of the desirable knowledge on the subject. The "doubtful position" should be ended at once by the enaction of laws on the "narrow, technical theory" that your correspondent tells us the French courts have found right. Until that is done opticians will go on ruining eyes and health, as all oculists have bitter experience almost daily in trying to undo and correct the injury done their patients who have first passed through the hands of the optician.

If he furnishes a customer glasses to cure errors in sight—if he investigates the troubles of the eye, if he determines the errors in refraction and if he prescribes a combination of lenses such as will remedy the affection, etc. The gentleman evidently never heard of the Teutonic maiden who, while drawing beer, fell into a delightful revery, imagining all the years of splendor and happiness that would follow if she should marry the Prince. In the meantime the beer filled the pitcher and ran all over the floor.

The trouble all lies in the *if*. In order to be perfectly safe, and also to have a loophole to crawl out of if some ignoramus with fiery eyes avers that *he* can do it, I will say that there is but *one* optician in the United States who *can* "give a customer glasses to cure errors in sight," or who is competent to "determine errors of refraction and prescribe a combination of lenses such as will remedy the affection." There is only one optician who can do this; the other ten thousand cannot do it.

The limit of the ridiculous is finally reached in the very amusing supposition that "the optician may be a physiologist." This bit of fustian spoken before a convention of opticians would certainly be considered the joke of the day. It is too absurd to answer. If we seek the fundamental reasons for the delusion into which such logicians as your correspondent fall, we find them somewhat as follows:

1. A complete misconception on the part of the general public, and too often on the part of some general physicians, as to the *rôle* of eye-strain in our modern life. Without a medical education (and with it the optician would necessarily cease to be an optician), the spectacle-vendor cannot know anything of the pathological relations to the eye and the general system. The eye, it is true, is a camera obscura, but it is a living, not a dead or mechanical, one. Every pair of lenses worn by every person in the world has a medical and pathological significance. This, to be sure, seems to the laity an outrageous exaggeration, but it is *la vraie verité*.

2. The same mediævalism of logic would deny the medical profession a *locus standi* or justification of existence. If the optician can do all it is said he may do, then the doctor should hand his diploma to the pharmacist and go out of business; because the druggist, as a general rule, is far and away more competent to prescribe the proper drugs in a case of disease than the optician is to prescribe the proper glasses. That may also seem an exaggerated statement, and again it is very truth.

3. It is a sneaking, ill-concealed belief on the part of many that this opposition on the part of "allopaths," "the old school," "the blue-mass old fogies," to quackery of all forms, to advertisers, to prescribing druggists and prescribing opticians, is a matter of low cunning, self-interest and envy. Those who secretly harbor such thoughts or feelings simply illustrate their inability to perceive facts correctly. They are victims of their own vanity.

4. If to opticians is to be given the function of

prescribing for refractive errors, the law should require of them, as it does of druggists, an education in their calling, a diploma that they are opticians, if not "physiologists," "pathologists," etc. Viewing the eye simply as a dead camera obscura, as having no other laws than optic laws, I have never seen a pair of glasses prescribed by an optician that were correct. I have had hundreds of suffering patients abused by the optician's supposed ability to prescribe, and never was a single pair of lenses correct optically speaking. They did not neutralize the patient's optical error. There is one optician, of course, who never makes these mistakes. As a matter of fact, with the one exception, opticians enter their calling either from the jewelry business or from the work-bench of the spectacle-maker and lens-grinder. Neither one of these callings, honorable enough indeed in themselves, necessarily imply an education in the laws of optics or the physiology and pathology of the eye.

5. Not only do all errors of refraction have medical and pathological significance, but if the optician is to treat all errors of refraction, he must perforce be a physician; because many diseases, most serious and dangerous ones too, can only be recognized by a physician, are not recognized by the patient as other than a call for spectacles, and could not be recognized by the optician. Every oculist has had instances of glaucomatous patients going to the optician for spectacles. As the disease progresses changes in the spectacles must frequently be made, until finally blindness is the walking monument of the non-existence of the "narrow technical theory" of the French courts, and the dominance of the "broader principle of legal construction" your correspondent hopes will have sway here. *Gott bewahr!*

It seems doubly strange to hear an intelligent gentleman arguing in this way in the face of the fact that the best opticians are ashamed of the hypocrisy and the wrong they are forced to do by the competition of unprincipled spectacle-vendors. An optician of any intelligence and honesty knows he does wrong in prescribing glasses. Even the worst of them are vaguely conscious of the fact. The better class will not prescribe except in cases of presbyopia, and even then free their consciences by advice to go to the ophthalmologist instead. The very highest class of opticians, men of conscience and intellect, will never sell a pair of spectacles except upon a physician's prescription. In this direction lies the elevation of the optician's profession, scientific and humane progress; in the way counseled by your correspondent lies the degradation of the optician's profession, and a return to mediævalism in medicine.

AMERICAN MEDICAL TEMPERANCE ASSOCIATION.

BY T. D. CROTHERS, M.D.,
HARTFORD, CONN.

This Association was organized at Washington, May 7, 1891, in pursuance to call by Dr. N. S. Davis, of Chicago, Ill., inviting all persons interested to meet and confer on the need of such an association. Sixty-one physicians were enrolled as original members, and a constitution and by-laws adopted, a board of officers elected, and thus a new medical organization was auspiciously started.

The purpose and object of this new society is outlined in the following statement offered by Dr. Davis:

"The object of this Association is to advance the practice of total abstinence in and through the medical profession, and to promote investigation as to the action of alcohol in health and disease, and it aims at being a bond of union among medical abstainers scattered all over our country. It admits as members regular medical practitioners who are practical abstainers from all alcoholic liquors as beverages. Members are not required to sign any pledge, but if such for any reason cease to become total abstainers it is expected that they will withdraw from the Association. The liberty of members to prescribe alcohol is entirely uncontrolled."

From this it will be apparent that the central purpose of this society is to study and investigate the action of alcohol as both a beverage and medicine. The only qualification required is to be a regular medical practitioner, and total abstainer from alcohol as a beverage. It will be apparent that the last qualification is more or less a scientific necessity for good work in this field. It is assumed rightly, that all physicians interested in this problem of alcohol should approach it from the scientific side alone, unbiased by any personal considerations of custom or habit, political or religious belief, with no object other than to ascertain the facts concerning alcohol, irrespective of all possible conclusions. This is the spirit and purpose of the Association.

In England a similar association composed of members of the British Medical Society has been in existence many years. Their regular meeting occurs at the same time with the British Medical Association, and the value and usefulness of their work is recognized in all scientific circles. In this country a society called the Association for the Study and Cure of Inebriety has been in existence for twenty years. It is composed largely of specialists and persons engaged in treating inebriety as a disease. While it has done grand work, and built up a very suggestive literature through its *Journal of Inebriety*, it has not taken up the popular medical discussion of alcohol, which this new society proposes to do. These

two societies will be closely allied in both work and purpose. One will have for its object the grouping and harmonizing the diverse theories of physicians concerning alcohol and its action, and the other the study of the inebriate and his maladies.

The Medical Temperance Association in the former work will be most heartily welcomed by all scientific men. The alcoholic problem has reached such proportions, and has become a subject of such intense interest in all political, social, and religious circles as to demand scientific study.

Medical men in every community are called upon to determine the facts concerning alcohol, and the necessity for medical study and agreement concerning the general truths are apparent to every one. For this purpose the Medical Temperance Association invite the coöperation and aid of every physician, not for the propagation of any theory, but for the gathering and grouping of facts concerning the action of alcohol.

The Association is entirely independent of any other object except the purely scientific question of alcohol. The Executive Committee has power to hold meetings in any part of the country where the medical interest seems to demand it. The regular annual meeting will be held at the same place and time of the American Medical Association. Papers and discussions will be presented at this time. While this Association is the culmination of an idea long entertained by Dr. Davis, and held until medical sentiment would fully sustain it, it is apparent that it is an expression of medical advance, of the scientific spirit of the times, that would rise above the theories and precedents of the past for the facts concerning alcohol.

This Association appeals to every physician, not as propagandists, but as scientists, for facts and clinical experience. It appeals to them as the only competent authority to determine the alcoholic problem. It appeals to the physician to guide and direct public sentiment, and to make this Association the great central power for the study and propagation of the facts and laws relating to alcohol, and its use and abuse.

The following are the officers elected for the first year:

N. S. Davis, M.D., President, Chicago, Ill.

For Vice-Presidents, I. N. Quimby, M.D., Jersey City, N. J.; J. B. Whiting, M.D., Janesville, Wis.; F. E. Yoakum, M.D., Shreveport, La.; J. Taft, M.D., Cincinnati, Ohio.

Secretary, T. D. Crothers, M.D., Hartford, Conn.

Treasurer, G. W. Webster, M.D., Chicago, Ill.

For by-laws and constitution, and application for membership, address the Secretary, at Hartford, Conn.

MEDICAL PROGRESS.

On Acid Medication in Disorders of Digestion.—The pathology and treatment of digestive disorders has of late been engaging the attention of many observers in France. The brilliant writings of G. Sée, G. Lyon, Huchard and others have done much to disseminate a more thorough knowledge of the causation of dyspepsia. In this matter Germany was, until recently, far in advance. The "French treatment" was far too uniform, and sufficient allowance was not made for the many varying forms of the disease. The routine treatment was either to send the patient to Vichy for a course of the waters, or alkalies in some other form were prescribed, to counteract the "acidity." Of course, many derived much benefit from these measures, but in others they failed completely. In order to understand the principle of the modern treatment, the following physiological details must be understood: The granular cells of the stomach form a substance named *propepsin*, which is secreted continuously, and in presence of the gastric acid is converted into pepsin. This pepsin is used up during digestion, and one of the most frequent disturbances of the process is due to the fact that, although the supply of propepsin is practically inexhaustible, yet the gastric acid may not be secreted in quantity sufficient to convert enough of this into pepsin. Both propepsin and acid are necessary for digestion; neither is of use by itself. If there be excess of functional work and increase of total acidity, we are in presence of a "hyper-hydrochloric" dyspepsia. This condition is probably rare, and only occurs under special circumstances, as in ataxia and some other neuroses. Diminution in the quantity of acid, "hypohydrochloric" dyspepsia, exists in the greater number of dyspeptics, the first effect of chronic disorders of digestion being to weaken the chemical operations of the stomach and to diminish the gastric acid. This diminution may even go so far as to lead to its complete disappearance, "ana-hydrochloric dyspepsia," which occurs principally in neurasthenia, and in the later stages of cachexia from cancer of the stomach, etc. As a consequence of the diminution of acid we have fermentations occurring, leading to pain, flatulence, vomiting, and the other well-known symptoms of dyspepsia. These facts once ascertained —and methods for determining them have already been described in our pages—it naturally occurs that the correct treatment is to supply the stomach with the acid in which it is deficient. The problem is, however, by no means so simple; we must not lose sight of the other agents—mucus, rennet-ferment, duodenal secretion, etc., which may also be subject to morbid alterations. Atony or hypersthenia of the muscular tissue, leading

respectively to dilatation or hyperæsthesia, give rise also to their own peculiar train of symptoms. With the increase in our knowledge, we must not shut our eyes to all these and many other conditions, which would certainly not be uniformly benefited by acid medication.

Indications for Alkaline Medication.—Until recently the plan of treatment most in vogue in France has been quite the opposite to this, and alkaline medication has been the method *par excellence: régime*, alkalies, artificial ferments, tonics, laxatives, Vichy water, etc., have benefited many. But at least half receive no benefit from this plan, and others who get temporary relief are not freed for long from their old enemy. Still, there is a class of cases which will be cured by such treatment. Imperfect mastication, privation, overwork, mental anxiety, or an excess of some sort, may have been followed by flatulence, vomiting, etc., and the patient seeks advice. Here the production of acid is diminished, but the glands themselves may be healthy; and in eight cases out of ten they only require the stimulus of an alkali to make them secrete their acid in the proper quantity. In these temporary conditions alkalies are the true remedy.

Indications for Acid Medication.—There is another class of patients who say that they are rheumatic, and only digest well when there are pains in their limbs. In their own language, "their rheumatism flies to the stomach." Such are the patients with *gastric catarrh* from excessive secretion of mucus, and duodenal juice. This fluid, if secreted in too great abundance, forms a coating over the gland surfaces, interposing itself between these and the food, and thus weakening or abolishing the power of the gastric juice. No amount of alkaline medicines will be of service — they are victims of the "rheumatoid diathesis," and urgently require acid treatment. The condition has nothing to do with rheumatism properly so-called, and is produced especially in the inhabitants of damp and cold climates like our own. Its symptoms are as follows: Uniform whiteness of the tongue, anorexia, wasting, and loss of strength; digestive troubles, with or without vomiting; alternate constipation and diarrhœa; wandering pains, rendered worse by changes of temperature; frequent coryza, pruritus, and skin eruptions; no true rheumatic antecedents. To such cases strong mineral acids are a necessity. Others to whom it is almost equally useful are the patients with dilated atonic stomaehs, which allow of fermentative changes; neurotic and anæmic girls; old men with enfeebled gastric powers; the anæmic dwellers in tropical climates. Such cases often improve remarkably under acid treatment.

Contra-indications of Acids.—The conditions in which acids are formally contra-indicated may be thus enumerated: "Hyperchlorhydric," pure dyspepsia, irritative dyspepsia, febrile or inflammatory affections, gout and rheumatism, milk diet.

How to Employ Acids.—As hydrochloric acid was found to be the natural acid of the stomach, it was naturally thought that this would be the best to use. In practice, however, it has been found that its powers fall far short of what might be expected. Small doses are useless, and large doses are both inconvenient and irritating. Bouchard gave as much as ℥j of strong acid daily to his patients, diluted in a quart of water, and this was often the minimum efficient quantity *per meal*. Others tried vegetable acids—lactic, tartaric, acetic. All these, as might be expected, did nothing but harm. *Aqua regia* is much employed in this country, and enormous doses are often taken with benefit. Some patients, however, cannot stand this, and the author prefers a compound acid prepared in the following way: ℞. Acid sulphuric (pure), 28 pts.; acid nitric (pure) 8 pts.; spt. vini (80°), 180 pts., by weight, to be mixed gradually in ice. This is his "*acide sulphonitrique rabelisé.*" It should be prepared long before required for use; in fact, the older the better. No violent reaction should be allowed to occur during its preparation, and the product when ready for use will contain sulphovinic acid, and a small quantity of nitric ether, which gives it a most pleasant odor. The dose is about 20 drops, after meals, given in water, wine or beer. According to the author no acid gives better results than this, which agrees well whenever acids are indicated. —*Bull. Gén. de Thérap.*

COMBINATION OF PARAFFIN WITH LANOLIN.—Paschkis has found that the special advantages of lanolin are increased when diluted with paraffin. The formula which he found best for a basis is:

℞. Lanolin 66 parts.
Liquid paraffin, 6 parts.
Ceresin, 1 part.
Distilled water, 65 parts. ℔.

INFANTILE CONSTIPATION.—Bouchut employs the following syrup:

℞. Podophyllin, gr. j.
Alcohol, f ℥ jss.
Syrup althæa, f ℥ jv. ℔.
S. Dessertspoonful daily.

—*Union Médicale.*

FISSURED NIPPLES.—Dr. Barton C. Hirst (*Univ. Mag.*, March, 1891) suggests the following application:

℞. Bismuth subnitrat.
Olei ricini, āā ℥ j.

The nipple and adjacent skin must be carefully cleansed, and the ointment then rubbed on liberally.

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SATURDAY, JUNE 6, 1891.

MASSAGE OF THE GENITAL ORGANS.

Objection again comes, from a high authority, to the use of massage in affections of the female reproductive system.

This question admits of two distinct and separate views based upon the results which follow under those of widely different organism and nervous trend. And the query arises: How can we foresee, in a given patient, debilitated by a neurotic condition involving the genital organs, or laboring under some other morbidity more directly touching the structural harmony of the parts, the unfortunate consequences which are sometimes observed, and upon which the strenuous objections rest?

It becomes at once a metaphysical inquiry, and runs off into fields of moral philosophy. The mind and will of the individual, upon whom the restorative powers of massage is to be tried, should first be studied, and from such study the probable outcome is to be weighed. And not alone the present state, but the past life of the patient as well, should be looked into. Questions of delicacy at once present themselves and should have prompt and straight-forward solution.

When the medical adviser can fully fortify himself with a clear, unquestioned knowledge of the entire mental, moral and physical make-up of his patient; when, so far as the patient is concerned, he feels there is nothing to fear from the application of massage, but that on the contrary there is everything to gain, then, and not until then, do we feel there is justification in the resort to this remedial measure.

And yet the half has but been said! The masseur! Here, again, must there be a display of the keenest circumspection. If the physician, after possessing the insight above-mentioned, is to act as masseur, or if massage is to be applied under his *immediate* supervision, then we have but little to add. Conscientiousness here is the outgrowth of the previous carefulness. If, however, a professional masseur must be selected, under whose charge the patient is to quite entirely rest, then the two-fold character of the case, and the physician's responsibility, becomes at once apparent.

Here, again, must a solution of the mental and moral integrity of an individual be made, not in the weakness of the body, but under the condition of physical strength. Here, as well, must there be a diversion of will power into paths leading away from the sensual. Here, again, must there be the buoyant feeling of hope, together with that determination towards success in the relief of the patient which plays so important a part.

Too much attention can scarcely be given this subject of the proper and peculiar fitness of the operator; and when this, and the other factors, are duly considered we feel that this system of treatment will be largely bereft of the odium which now surrounds it.

THE WATER WE DRINK.

There is no problem in science more definitely settled, than the one pertaining to the drinking of impure water as a cause of enteric disease. In the large cities, efficient boards of health with skilled men employed as chemists and sanitary officers stand as watchful guardians over the water supply of the people.

In country districts the conditions are quite the reverse; there are neither health boards, nor paid sanitary officers, and usually the only man in the vicinity who has any knowledge of the subject is the neighborhood physician, and upon him devolves a solution of all causes of preventable disease within the territory in which he labors.

In many parts of the country typhoid fever and dysentery appear with the same regularity as

the seasons, and always with the variability of the water supply. Frequently the priceless spring is located on a little lower level than the farm-house and barn-yard; and although it may bubble forth in a stream of clearest crystal water, may be so laden with poisonous microbes, as to become the involuntary purveyor of the germs of disease and death.

Contaminated water may be the only drink of the milk cows and through this channel produce and foster an epidemic of disease.

Physicians engaged in country practice have many opportunities for making valuable observations in this direction, while such studies enable them to become educators of the people.

A "HEALTHERIES" AT NEW YORK.

An imitation of the London Healtheries has been set on foot in New York City, having its offices in the vicinity of Madison Square. Its projectors claim that while the primary operations of the Healtheries will be directed toward the procurement of a purer food-supply, the general influence of the movement will be exercised over all departments of the public health. The company intends to have exact chemical and microscopical examinations made upon suspected articles of food and drink that are offered to the public, and promises to inform the individual consumer, upon application, of the results of such investigations. Inasmuch as a recent Food Exhibition yielded a net profit of $10,000, it is probable that much of the scientific work above referred to can be accomplished free of cost to the general public. A certain proportion of the annual profits will be laid aside as a fund for a permanent building. A weekly or monthly food journal will probably soon be issued, for the purposes of publishing the results of analyses, and of announcing the new foods in the markets. There will be at the outset a board of three well known chemists; all analyses made for the company must be signed by two or more of the board.

LEPER COLONY IN BRITISH COLUMBIA.

An isolation of all lepers found at large in the towns of British Columbia has been ordained by the Dominion government. An island off the coast, called Darcy's Island, has been set apart and will immediately be prepared for the reception of the leper colony, composed chiefly of Chinese. The authorities have also ordered that an immediate investigation shall be made as to the alleged rapid increase of leprosy in and about Vancouver, and for that purpose Dr. Smith, superintendent of the leper colony of Tracadie, New Brunswick, has been appointed as an expert commissioner to examine and report the true status of leprosy on the Pacific slope of the Dominion.

SOCIETY PROCEEDINGS.

Medical and Chirurgical State Faculty of Maryland.

Ninety-third Annual Session, held at the Hall of the Faculty, Baltimore, April 28, 29 and 30, 1891.

DR. T. A. ASHBY, PRESIDENT, IN THE CHAIR.

Drs. G. L. Taneyhill, Robert T. Wilson and William B. Canfield, Secretaries.

The ninety-third annual session of the Medical and Chirurgical State Faculty of Maryland was called to order at the Hall of the Faculty, corner St. Paul and Saratoga Sts., April 28, at 12 o'clock noon.

REV. G. F. M. ELLIS opened with prayer, after which the minutes of the previous meeting were read, corrected and adopted. After some preliminary announcements, Dr. T. A. ASHBY delivered the President's Address, on the subject:

THE RELATION OF THE MEDICAL AND CHIRURGICAL FACULTY TO PROFESSIONAL ORGANIZATION IN AMERICA.

The Faculty, one of the oldest State organizations extant, was now entering on its ninety-third year. It had had seasons of prosperity and adversity. In its early life in the colonial history of our country, and later during civil strifes, it had suffered and lost strength. At one time, it practically went out of existence. It had at one time the full power to license all practitioners in the State. This power, which had fallen into disuse, was now entirely lost, through the efforts of irregular practitioners. Whether it could be recovered was a question. If the body could be strengthened, the membership increased, and all the respectable members of the profession of the State brought into unity of thought and action, much of the lost power might be regained. The Faculty was now meeting under auspicious circumstances. The semi-annual meetings recently held in Hagerstown and Cambridge had not only added a large number of new members, but had excited renewed interest in various parts

of the State, the result of which was the formation of local societies. The lessening of the annual dues had had a good effect. The Faculty has always had a very poor home. Now it is well housed, and the library which it possesses is in good condition and well taken care of, but the fact that we only rent this hall, gives it a feeling of uncertainty. We should have our own hall. For this an endowment would be necessary, and this could only be obtained by exciting interest among the members. Such a fund would be started as soon as possible. The future outlook of the Faculty was never better. If we cannot have the power to license, we can strengthen ourselves, and form a respectable State Medical Association.

DR. RANDOLPH WINSLOW read a paper entitled:

INJURIES TO THE KIDNEYS.

A man 33 years old, weighing 170 lbs., while driving very fast, was thrown out, and fell violently to the ground. He was much shocked and nervous. Had much pain in right flank. No bladder symptoms. Next morning there was hæmaturia which lasted a week or more. This with other symptoms disappeared, and then his left scrotum and cord were attacked with great pain, left leg was swollen, phlebites occurred. These symptoms gradually disappeared and case recovered. A careful study of all the symptoms, and the history of previous cases, pointed to a diagnosis of rupture of the kidney. A sudden and heavy fall may cause rupture of the intestinal organs, and the kidney has been frequently so torn. Extirpation may be necessary.

DR. JOHN D. BLAKE read a paper entitled,

SOME CONDITIONS OF THE URETHRA REQUIRING PERINEAL SECTION.

In the discussion which followed, DR. J. E. MICHAEL said he agreed in some points and disagreed in others. When operation is used as a temporizing means, it is a good thing, and when the instrument is used with proper antiseptic precautions, there is no danger. He is skeptical with regard to electricity. He had been very successful in his operation for deep perineal section, and felt safer in this than in attempting to pass bougies and other instruments, causing chills, shocks, etc. A free incision is attended with very little shock.

DR. J. D. BLAKE said he had been much pleased with the use of electricity, and related a case to prove his point.

DR. L. MCLANE TIFFANY read a paper entitled *Indications for Treatment in Malignant Diseases of the Mammæ.*

DR. JOHN W. CHAMBERS read a paper entitled *Some Observations in Injuries of the Cervical Portion of the Spinal Cord.*

DR. WM. H. WELCH, of the Johns Hopkins University, then delivered the Annual Address. The subject was

THE CAUSATION OF DIPHTHERIA.

The subject is an exceedingly important one, and has been much discussed in the medical journals of the day, but many of the facts are so new that they can with advantage be brought up again. Although the advantages are principally bacteriological, the points brought out will be chiefly those which illustrate the application of these discoveries to a fuller and more correct knowledge of the nature, etiology, pathology, prevention and treatment of diphtheria.

The questions to be answered are, Is diphtheria primarily local or constitutional in its origin? Are all pseudo-membranous inflammations of the throat not directly referable to caustic irritants, diphtheria? Is there a purely local, non-contagious, pseudo-membranous laryngitis, called croup, distinguishable from diphtheria? Are the pseudo membranous anginæ secondary to scarlatina, and less frequently to measles, and some other infectious diseases, identical with diphtheria? Is there any relation between tonsillitis and diphtheria? May diphtheria occur in a mild form as a simple catarrhal inflammation of the throat? Are pneumonia, acute nephritis, suppuration of the glands in the neck, etc., referable to the direct action of the diphtheritic virus? In other words, what lesions belong to the disease and what are complications? Shall reliance be placed chiefly upon local or upon general treatment? These are important practical questions, which a careful study of the disease has not yet answered. Our most recent knowledge on the subject has come through the discovery of the microscopic germ which is the specific cause of diphtheria. There is perhaps no other disease, with the exception of tuberculosis, upon which greater light has been shed, by the discovery of its specific cause, than upon diphtheria. The specific bacillus is called the Klebs-Löffler bacillus. There are three difficulties in the way of proving this. One is the uncertainty as to what is diphtheria, as distinguished from the various anginæ associated with scarlet fever, measles, etc. Thus different investigators working with different kinds of anginæ would obtain different results. Genuine cases only should be studied. A second difficulty is the large number of bacteria found in the diphtheritic membrane. It must be determined which of these are constantly, and which are inconstantly present and absent in other conditions. We may preume this is the specific cause, and the presumption becomes a certainty, when we can reproduce the disease experimentally. The third difficulty is to prove that our experimental disease is identical with human diphtheria. As by various agencies we can produce on the mucous membrane of the tonsils, pharynx, etc., a fibrinous pseudo-membrane which is not diphtheritic, we cannot rely on the membrane alone as pathognomonic.

Oertel has demonstrated that the diphtheritic virus is a most peculiar poison to the cells of the human body, and that it produces areas of cell death, not only on the surface of the mucous membrane, but also in deep parts, in various lymphatic glands at a distance from the local lesion, and in the spleen. These changes can be shown by histological demonstration. Now if our suspected germ produces the membrane, and all these changes too, and muscular paralysis, then we have strong evidence that it is the specific cause of diphtheria. All these difficulties were not overcome at once, but it is needless to go over each step. It will only be necessary to say that the Klebs Löffler bacillus has been accepted as the specific bacillus of diphtheria. Dr. Welch and Dr. Abbott had proved this, in a series of cases occurring here. The practical value of this discovery will come later.

The specific germ of diphtheria is a bacillus devoid of independent motility, averaging in length about that of the tubercle bacillus. It presents itself, both in diphtheritic membranes and in cultures, in such bizarre forms that these belong to its most characteristic morphological properties. It grows upon various culture media and in milk. It grows readily outside of the body. It has no spores, but is very resistant, a fact which is shown in the viability of the disease in old clothes, rooms, etc., after many years. Diphtheria is without doubt a local disease. It is only found in the upper part of the membranes. The constitutional symptoms are due to the reception into the system of a chemical substance, a poison produced by the bacillus. The germs are conveyed by bits of membranes, saliva, secretion, etc., but the disease is not as easily spread as scarlet fever, nor is the danger from infection through drinking-water as great as with typhus fever. The toxic substances produced by the bacilli are very complex, and worthy of careful study. The difference in epidemics, mild or severe, is not easily explained. Similar differences are noted in experimental diphtheria. The discovery has not yet reached the diagnostic importance of the tubercle bacillus; that is, it cannot be so easily put to use, but for one skilled and equipped in bacteriological research, or in a large hospital, such a method is inestimable. As bacteriological methods become more generally understood, such means of diagnosis will be used. The anginæ occurring with scarlet fever, etc., are not diphtheria, as the bacteriological examination would show. Other bacteria are frequently but not constantly found. Diphtheria may be communicated from animals to man, and *vice versa;* also by milk. Much elaboration is necessary before this discovery becomes of general practical use.

Naturally, our methods of prophylaxis and treatment will not be materially changed. The peculiar character of the toxic substances produced by the diphtheritic bacillus furnish the strongest indication for the earliest possible local treatment of diphtheria by germicidal agents, and that an equally urgent indication is the destruction of the poisons circulating in the blood, and, in the existing absence of any such antidote, supporting means of treatment should be used. to render the system capable of withstanding the injurious effect of the poison.

DR. WM. OSLER read a paper entitled

THE HEALING OF TUBERCULOSIS.

That pulmonary tuberculosis is curable, is demonstrated clinically by the recovery of patients in whose sputa elastic tissue and bacilli had been found, and anatomically by the existence of lesions in all stages of healing. Caseous areas may be impregnated with lime salts, or the tuberculous masses may be encapsulated by fibrinous tissue, in which case the substance remains quiescent, and the disease is not cured. Perfect healing does not occur after cavities are formed. A cavity may be much reduced in size, but is not often closed. Laennec did much good work in this direction. He recognized the *cicatrices complètes* and the *cicatrices fistulences*, and suggested that as tubercle growing in the glands, which we call scrofula, often healed, why should it not do the same in the lungs. In a large number of autopsies healed or quiescent tubercular lesions have been found in the lungs. This was noticed in 1880 by Palmer Howard, who called attention to the great frequency of puckering at the apices of the lungs in elderly persons.

The following is noted of the apices: 1. Thickening of the pleura, usually the posterior surface of the apex, with perhaps subjacent indication of the lung tissue, for the distance of a few millimetres. 2. Puckered cicatrix at the apex, depressing the pleura, which may, or may not be here thickened. On section, there is a fibrous scar much pigmented, the bronchioles in the neighborhood dilated, but no tubercles or cheesy masses. Such structures are extremely common, and may in some cases indicate a healed tubercular lesion. 3. Puckered cicatrices with a cheesy or cretaceous central nodule, and with scattered tubercles in the vicinity. 4. The *cicatrices fistulence* of Laennec, in which one or more cavities have become quiescent, surrounded with fibroid tissue and communicating with the bronchi. At 1,000 autopsies of his over 59 cases, or 5.05 per cent., were found in which persons dying of other diseases presented undoubted tubercular lesions in the lungs. Of the 59 cases, the causes of death were: Cancer of various organs, 12; cirrhosis of the liver, 7; accidents and operations, 85; acute fever, 9; uræmias, 5; diseases of the head and arteries, 5; other affections, 13. The ages of those cases: Under 10 years, 4; from 10 to 20, 2; from 20 to

30, 8; from 30 to 40, 10; from 40 to 50, 14; from 50 to 60, 14; from 60 to 70, 5; above 70, 2. Heitler, of Vienna, found in 16,562 cases in which the deaths were not directly caused by phthisis, there were 780 instances of obsolete tubercle, or 47 per cent. The simple fibroid induration should be excluded. With each decennial period up to the sixtieth year, the number of cases increased. Bollinger found in 27 per cent. in 400 bodies evidences of tubercular lesions in the lungs. Staudacker, in 737 cases, found apex cirrhosis in 202. Massini found evidences of healing in 39 per cent. in 223 bodies examined. Harris, of Manchester, found in 139 cases 54, or 38.84 per cent., in which there were relics of former active tuberculosis. The greater number of these were in the third, fourth and fifth decades. In the Paris Morgue, it is said that 75 per cent. of suicides and those accidentally killed present evidences of old tubercular lesions.

These facts demonstrate, *first*, the widespread prevalence of tuberculosis; and *secondly*, the fact, as shown by the above figures, that at least one-fourth of all infected persons recover spontaneously. In the great majority of cases, the disease was very limited and had made no progress, and could not have given rise to physical signs. But even in cases further advanced, arrest is by no means infrequent, and if not cured, the condition of arrest is consistent with comparatively robust health.

Once infection has occurred, there are three indications: *first*, to place the person in surroundings most favorable for the maintenance of a maximum degree of health; *second*, to take such measures as in a local or general way influence the tuberculous process; and *third*, to alleviate symptoms which are necessarily associated with the disease. The environment is of the first importance. Trudeau's experiments with free and confined rabbits prove this. A patient confined to the house in close, overheated rooms, or in the stuffy, ill-ventilated dwellings of the poor, or even in hospitals, does not stand the chance with the patient in the fresh air and sunshine all day long. The home treatment of consumption is important. Fresh air and sunshine are all-essential. Altitude is a secondary consideration in comparison with these.

Koch's lymph or tuberculin has a very limited use. 1. In a limited number of cases with early local lesions, and not much constitutional disturbance, its use seems beneficial; the cough disappears; the patient gains in weight, and the local signs improve. In none of these, however, after a four months' treatment, can we say there is a cure. 2. In cases with more advanced lesions, particularly with consolidation, the febrile reaction induced is severe, the local condition is aggravated, and the patients lose ground, often with rapidity. 3. In advanced cases, with cavities and irregular pyrexia, the remedy is most injurious, and aggravates every feature of the disease.

Of measures which influence the general condition, apart from hygiene and diet, there are four which have stood the test of experience—cod-liver oil, the hypophosphites, arsenic and creosote, all of which act by improving the nutrition, and rendering the tissues more resistant, the soil less suitable, for the growth and development of the tubercle bacilli.

In the discussion which followed, DR. WM. H. WELCH said there were two points of importance to be considered: What is our interpretation of the lesions at this apex? What are these fibroid thickenings at the apex? The most frequent lesion found at the apex is a thickening, a slate-colored induration. This contained no caseous nodules, nor calcareous products. Are these healed tuberculosis? If so, then the number of healed cases is large. We cannot say. But even if we leave these out, we have many genuine cases of healed tuberculosis, where there were tubercle bacilli in the sputum. Does it all depend upon the character of the soil on which the bacilli have to grow? There is some doubt on this point. They may vary in their virulence, and some may be of an attenuated character. As high an authority as Koch does not admit this, and this has great weight. Trudeau has reported a case of miliary tuberculosis in which the bacilli were of a very weak character, and Nuttall, in the Johns Hopkins Pathological Laboratory, found a few instances in which the inoculation of genuine pure culture of tubercle bacilli in guinea pigs, usually very susceptible animals, simply caused a localized tuberculosis.

DR. JOSEPH T. SMITH thought the importance of the home treatment could not be too strongly emphasized.

DR. WM. OSLER, in reply to Dr. Branham, said in treating cases with Koch's tuberculin, he used no other therapeutic means. These cases in the hospital now are all doing well. In no case have the bacilli disappeared, but he was glad to say that no case had died under his treatment there, which was probably because all cases treated there had been carefully picked, and only those in the earliest stages had been treated.

DR. JOSEPH T. SMITH then read a paper entitled

THE TREATMENT OF DIPHTHERIA,

in which he discussed the following points: 1. The effect of isolation and disinfection in the spread of the disease. 2. The need of alcohol and iron to influence for good the heart and blood-vessels, and the value of milk as the article of diet. 3. The need of quiet or rest in bed, and the importance of looking upon these as governing our choice of applications to the throat and other forms of medication. 4. The necessity of

calling early upon the surgeon when the disease invades the larynx. 5. The value of as great cleanliness of the pharynx and nares as the condition of the patient will permit.

There are three vexed questions which still await answer: 1. How shall the membrane be dissolved? 2. How shall the bacilli be destroyed at the seat of infection? 3. What is the antidote to the poison? This paper was discussed by Drs. A. K. Bond, W. A. B. Sellman and W. Brunton.

Dr. J. E. MICHAEL read a paper on *Obstetrical Antisepsis*, which was discussed by Drs. Geo. H. Rohé, J. M. Craighill, J. D. Blake, J. G. Wiltshire, A. Friedenwald and W. S. Gardner.

DR. W. S. GARDNER read a paper entitled *Milk Fever*, which was discussed by Dr. J. E. Michael.

DR. ROBERT T. WILSON read a paper entitled *Circumscribed Peritoneal Dropsy simulating Ovarian Dropsy*.

DR. GEO. H. ROHÉ read a paper entitled *The Sanitary Importance of Free Baths*.

DR. H. NEWELL MARTIN read a paper entitled *Recent Discoveries in the Physiology of Ganglion Cells*.

DR. J. C. HEMMETER read a paper entitled *The Influence of Digitalis, Ergot and Alcohol on the Blood Fluid*.

DR. H. N. MARTIN read a paper entitled *The Vaso-Motor Nerves of the Heart*.

DR. W. T. COUNCILMAN read a paper entitled

THE FORM OF DYSENTERY PRODUCED BY THE AMŒBA COLI.

Dysentery, as a word, was first used in a clinical sense. It meant tenesmus. It is an inflammation of the large intestine. The pathological lesions are exceedingly numerous and varied. It would be absurd to suppose that all forms of dysentery come from the same cause, just as in pneumonia. The pulse is rapid. The case may last several months. In the anatomical lesions which are produced there is much variation. Some die before ulceration begins, and other cases are not so virulent. The lesions are in the submucous tissue. Clinically the disease is chronic. It begins with a diarrhœa. It is intermittent in character, may last for a month, stop, and then break out again. There is no pain in the earlier stages, but later there is pain; the diarrhœa becomes worse, and there is tenesmus. The stools are mixed with blood. There is usually no fever in the entire course of the disease, emaciation still goes on. The duration may be from three to six months. Towards the last the complexion assumes a dull, earthy-like color. There is nothing distinctive in the stools; they are always fluid, and considerable in amount. When these patients die, the anatomical lesions are exceedingly characteristic. There is entire absence of diphtheritic exudation, which one finds in the acute cases, and the surface of the bowel shows numerous ulcerations. These ulcers are relatively small, and the surface is mammilated. There is a small loss of substance at the apex of these elevations, and an abscess cavity, and on this a depression is filled with an opaque greyish, gelatinous-looking mass. The entire intestine is much thickened, the muscular coat thickened. Then large ulcers can be found which run into each other, so that we may have long, sinuous passages running through the intestines in various directions, and the membrane becomes undermined, sloughs and falls off. It extends to the mucosa and the muscular coat, and large sloughs are cast off. The microscopic characteristic appearance is evident. The amount of sloughing is often extreme, some as large as the hand.

This is interesting from the complications. The most frequent is the abscess of the liver. He had seen at the Johns Hopkins Hospital eleven cases of this form, of which five died and three are still under treatment. Of these eleven cases, four deaths occurred from liver abscess, and one case of liver abscess is still under treatment. The abscesses of the liver are fully as characteristic as in the intestinal ulceration. The liver abscesses are filled with a gelatinous-looking mass. If they are larger they may have a distinct fibrous form, and look like other forms of abscess.

The next most common complication is abscess of the lung. The formation of abscess of the lung is interesting. In four cases at the hospital, three had abscesses of the lung. The lung abscess comes from the liver abscess. The liver abscess is on the upper surface of the liver. There is an adhesive pleuritis and the lung abscess follows. It is very insidious in its outset, there is always pyrexia, abdominal pain and much sweating. When the lung complication takes place, the appearance of the sputum is characteristic—tough, of dingy cherry-red color, as in acute pneumonia, so that the spit-cup can be turned up without the sputum running out. The sputum also contains small masses of necrotic tissue, lung tissue. The cause of the disease has long been suspected. Davaine, in 1853, described the cercomonas in the stools. Then Lander, in Prague, found small amœbæ in the stools of a child which had died of dysentery, also in cholera. Cholera patients in India by Cunningham and Lewis. Lersch, of St. Petersburg, was the first to describe this as we now know it. It is an amœba $\frac{1}{1000}$ to $\frac{1}{400}$ of an inch in length. It is either round or is undergoing movements. The outer part is a homogeneous mass, and the inner part is filled with granular matter. The movements are active, and its large size makes it easy to study under a low-power microscope. It may be seen to change its form and shape under the microscope. It puts out its pseudopodia and draws them in again. It is found in the stools, in the abscess of the liver and

lung. We find in it things which the organism has taken up for food, as, for example, red blood-corpuscles. The organism may be seen in the microphotographs which are passed around. He thought this form of disease was not so uncommon as many thought. He had tried to find the geographical range of the disease. Woodward also had written largely on dysentery, had recorded 693 deaths from intestinal affection.

DR. WM. OSLER thought the form very peculiar and destructive. He referred to one case he had seen in consultation.

DR. A. FRIEDENWALD thought that Woodward's cases died too soon to have the abscess occur. They develop late in the disease.

DR. J. C. HEMMETER asked if the amœbæ had been clarified, and if they had been artificially cultivated.

DR. W. T. COUNCILMAN said that Cunningham, in 1879, had cultivated them, not in pure culture, and had possibly found these forms. He used a strong solution of cow dung. Another investigator had obtained a pure culture and produced the disease in cats. Most animals are immune from injection of the stools. He regarded the amœba as the undoubted cause of the disease.

DR. HIRAM WOODS read a paper entitled

BLINDNESS IN THE UNITED STATES,

in which he quoted numerous statistics to show increase in blindness, particularly among the poor, principally from ophthalmia neonatorum. He recommended the more widespread caution to the poor that could be distributed throughout the city, in the hospitals, dispensaries and station-houses. At his suggestion, the President appointed Drs. Hiram Woods, A. Friedenwald, J. E. Michael and G. H. Rohé, a committee of four to attend to this.

DR. FRIEDENWALD thought it was the best paper he had ever heard on the subject. The difficulty is not want of knowledge, but carelessness, which causes blindness in the newborn.

DR. GEO. H. ROHÉ referred to the absence of ophthalmia neonatorum at the Maryland Maternité, in a large number of births.

DR. R. L. RANDOLPH thought that emphasis should be laid especially on the quantity of the silver nitrate used. Too strong a solution acts as a caustic. In a child, the secretion of tears is scant, and there is less chance of an excess of the agent being neutralized. More than one drop should not be used.

DR. W. T. CATHELL then read a paper on *Enlarged Tonsils and their Detrimental Effect on Health and Development.*

DR. J. W. HUMERICHOUSE, of Hagerstown, read a paper entitled *Four Cases of Diphtheritic Laryngitis* in which intubation was performed with one recovery, and one case of recovery without operation.

The following volunteer papers were read:

"The Physical Training of the Feeble-minded," by Dr. Samuel J. Fort.

"The Revival in Physical Training and Hygiene," by Dr. Edwin M. Shaeffer.

"A Second Series of 100 Cases of Labor at the Maryland Maternité," by Drs. Geo. H. Rohé and Samuel H. Allen.

"Two Cases of Bilateral Homonymous Hemianopsis," by Dr. Geo. J. Preston.

"Acute Miliary Tuberculosis treated with Tuberculin," by Dr. Jno. C. Hemmeter.

"Certain Pathological Effects of Aneurism," by Dr. N. G. Kierle.

"Intra-uterine Diseases of the Eye," by Dr. J. J. Chisolm.

"The Function of the Omentum," by Dr. Howard A. Kelly.

"Two Obstetric Cases," by Dr. W. Brinton.

"A Case of Cancer of the Bladder" (with specimen), by Dr. Jas. Brown.

"Supra-vaginal Hysterectomy," by Dr. Thos. Opie.

The following were elected for the ensuing year:

President—Dr. W. H. Welch.

Vice-Presidents—Drs. J. W. Humerichouse and David Street.

Secretaries—Drs. G. L. Taneyhill, R. T. Wilson, J. T. Smith and Wm. B. Canfield.

Treasurer—Dr. W. F. A. Kemp.

St. Louis Medical Society.

Stated Meeting Saturday, January 31, 1891.

THE VICE-PRESIDENT, DR. J. C. MULHALL, IN THE CHAIR.

[Abstracted for THE JOURNAL].

DR. H. C. DALTON presented the following specimens with sketches of the corresponding cases:

DIAPHRAGMATIC HERNIA, TRAUMATIC.

The case was a man, æt. 26, who received a stab wound two and one-half years before, in the left thorax at the seventh intercostal space and two inches posterior to mammary line. Patient entered hospital at the time of this injury, and was discharged apparently cured in a few days. January 22, 1891, he was readmitted to hospital, suffering greatly. Pulse 90, temperature 103. Five days before admission he had severe pain in umbilical region, and bowels had not moved, despite efforts to that end. Vomited first day of attack, not since. Abdomen swollen and hard. Pain constant and increased on pressure. Consulting surgeons advised laparotomy, though a clear diagnosis was not made previous to the operation.

Abdomen was opened and a general peritonitis found. Upon search a diaphragmatic opening

was discovered through which all the omentum and twelve or fifteen inches of the colon had passed into the left thoracic cavity. Efforts to withdraw the mass were fruitless, and a slight incision of the diaphragm was made, when reduction at once occurred. Patient was very weak after the operation, and died in four hours. Undoubtedly the diaphragm was cut through at the time of the stab injury over two years since, leaving a weakened cicatrix which eventually gave way in front of abdominal pressure.

The specimen was presented showing the pathological condition.

In commenting upon the case Dr. Dalton said the literature upon the subject of diaphragmatic hernia was very meagre, surgical authorities referring to it but briefly.

LACERATION OF MESENTERY; RESECTION OF ILEUM.

Patient aged 48. Eleven and one-half hours before admission to hospital patient fell from a wagon, and while on the ground a companion jumped from the wagon landing on patient's abdomen with both feet. Great pain, abdomen swollen and tender. T. 103, P. 132. Laparotomy. Two quarts of blood were washed out of the peritoneal cavity. Mesentery of ileum was found torn entirely through for about a foot parallel to and about two inches from the gut. Intestine was dark, and showed commencing gangrene. One foot of ileum was resected by V-shaped incision and circular enterorrhaphy. Patient died ten hours after operation.

Uterine Fibroid.—Delivered from vagina after strong expulsive efforts of uterus and adjunct muscles. Attached to fundus uteri by small pedicle, which was broken and mass removed with but little hæmorrhage.

TREPHINING FOR SEVERE HEADACHE.

DR. T. F. PREWITT presented a case in which not only was the pain relieved, but a restoration of the function of the eye was had after blindness had continued for nine years.

DR. WILLIAMS inquired what were the ophthalmoscopic appearances of the optic disc?

DR. BREMER replied that the eye was absolutely normal so far as could be seen.

DR. A. B. SHAW thought the result rather tended to confuse the location of the centre of sight, the opening in this case being much above either the anular gyrus or cuneus, high up over the first occipital convolutions in the region of the posterior fontanelle. The speaker felt that in the light of our present returns regarding cerebral surgery a greater boldness was permissible.

DR. DICKINSON said that a few sources of the origin of the optic nerve are distinct and demonstrated, but the entire number is infinite. The entire cerebral cortex doubtless contributes.

THE PRESIDENT spoke at considerable length and with much clearness about the case, having had a knowledge of the peculiarities previous to the operation. He said the question of hysteria could be eliminated entirely, and that the outcome of the operation, as to the restoration of sight to the patient, was indeed a wonderful achievement. The operation was done for the relief of the intense pain, and without a thought of any effect upon the vision. The case should be carefully watched, and the permanency of the results noted.

DOMESTIC CORRESPONDENCE.

Ovariotomy as a Prophylaxis and Cure for Insanity.

To the Editor:—I wrote an article on this subject in March of this year. I further report concerning the same case.

Miss Ada N., age 28, had been insane for 13 years, when on February 4, 1891, I made my first ovariotomy upon her, with the result as shown in my article of March, 1891. The young lady continues to improve mentally and physically. Hers was a case of hysterical insanity, although the case had been for 13 years pronounced a case of dementia. As stated in my first article she had had scarlet fever at 13 years of age; just at the time when the ovaria were developing into active maturity, and were consequently checked and diseased. She complained of ovarian pain for years, increased at each menstrual epoch. Now here is one of those cases wherein the sympathetic nervous system was at fault and not, as was frequently diagnosed, "mental disease." This case illustrates beautifully the reflex effect of disease of the generative organs.

The patient is now undergoing an "artificial change of life."

Her present condition and symptoms are precisely those of the menopanse. She has not uttered one irrational word since the removal of the ovaria. Her former pain and symptoms have entirely subsided. She talks freely and rationally, and is daily gaining strength. I should like to hear from some of the readers of THE JOURNAL upon this case.

Diagnosis:—I believe too much care cannot be exercised in discriminating between real and psuedo insanity. In this case of Miss N., there was abundant evidence in favor of the theory that scarlet fever was the cause of her insanity, as having produced structural lesion in the brain; but at the same time there appeared positive evidence of ovarian irritation which had been present from the very beginning of menstruation; yet the fact appears to have been lost sight of by every medical man under whose eye the girl had passed. I am compelled to say, and that without egotism, I trust, that specialists are too liable to lose sight of general symptoms and signs and form or base their opinions upon points or signs peculiar only to their respective specialities, thereby being not infrequently mislead from a lack of power in generalizing such cases.

I shall report the future condition of this lady from time to time and acquaint the readers of this JOURNAL with her future state of mental and physical health.

Case 2.—Miss J. W., Elizabeth, Ill., age 28 years. Fair health; medium height; blonde. Has been in poor health since menstruation made its appearance.

I was called to Elizabeth, Ill., on March 1st, of this year, to examine and pass my opinion upon this lady's case. I found a fine looking young lady confined in

an iron cage. Miss W. had been confined for something over two years; she had not a stitch of clothing on her person, nor had she been able to keep any clothing on her for two years. She would tear every thing in the way of cloth to shreds; even carpets they could not keep tacked to the floor. She had a mania for tearing and destroying things that were placed in her cage; therefore the only article in the shape of cloth that she could not mutilate was the heaviest sailing cloth, and of which cloth her mattress (that being the only article movable in her cage) was made, also one very tough sheep skin which constituted her sole bed covering. In this condition I found Miss W. Her language was continually abusive, profane and obscene. She appeared to possess a grudge against all men. The presence of a man would always excite obscene and profane language. She was constantly, during the day time, climbing to the ceiling of her cage and would drop herself down on her hip to the floor, seemingly endeavoring to kill herself or hurt herself in order to get relief from her pain. She would turn complete summersaults forward or backward; she would run up and down her cage, scream, swear and tear her hair and in every way possible abuse her body. When quiet, she would lie down, doubled up like a four legged animal; showing conclusively that a relaxation of the abdominal muscles was a relief to her pain. She would go for days without a bite to eat. She would defecate on the floor most of the time; having only straw on the floor it was periodically removed, and this could be done only by the help of several attendants. In this terrible plight I first saw Miss W.

Diagnosis:—With the assistance of three strong men I entered her cage to examine her, she being thrown down and her face covered with an ordinary base ball mask, and hands and feet bound down and held by the attendants. I proceeded to examine the case. I found the heart very much hypertrophient, from over exercise. Lungs sound. Bowels tender and mesenteric glands very much enlarged; both the ovaries were large, tender and very much displaced downward. Upon touching the finger against the clitoris and vagina, she began to work up and down as in the act of intercourse and began a volley of obscene language, which she kept up during the digital examination. I could come to no other conclusion than that this was a case of ovarian disease with that nymphomaniac tendency which were in all probability the primary causes of her insanity.

The history of the case from the very beginning of menstruation tended to show that there was ovarian disease, but she had been simply regarded as a little cranky from girlhood up to 23 years old, when she had a low affair with a young doctor who they claim had probably insulted her, when all at once she became demented and was submitted to Elgin, Ill., asylum, where she remained two years.

Treatment.—Having diagnosed this a case of ovarian trouble, I suggested an immediate operation of removing the offending organs. Accordingly with my first assistant I started from Racine, March 1st, and proceeded to Elizabeth, Ill., where on March 2nd, I performed the operation of ovariotomy.

I found, as predicted, both ovaries, with their tubes, badly diseased, being in a fibro-cystic condition; both tubes were four times the usual size, congested and in a state of pyosalpinx. There was downward dislocation of both organs with extensive adhesions. The peritoneum in the region of the organs was much thickened and congested, presenting a yellowish pink color, showing conclusively a congestion of long duration; the effect of the operation wore away in a few hours, when she emerged from it feeling weak and tired. She presented a different facial aspect within forty-eight hours; that peculiar idiotic terrible set expression had gone. She talked quite rationally most of the time for ten days, calling for the bed pan and otherwise showing a great change. She talked of many things which had happened years ago. She recognized all her relatives and seemed quite rational. She would ask pleasantly for food and drink, and express her thanks when anything was done for her comfort. Her family generally expressed their feeling that reason had indeed resumed her sway. Her former obscene language and profanity had entirely been forgotten. Her actions were quite right. She did not need to be tied. After the fifteenth day she began to tear a little, although she used no bad language nor talked insanely. After twenty-one days, which time was her usual time for menstruation, she appeared to grow more normal mentally, but nothing of her former trouble has yet shown itself. I should like to hear the opinion of the profession upon this case.

I shall write again upon this case and give full particulars. I do not attempt here to offer anything original or new in the treatment of insanity, nor revise the long since tried treatment of ovariotomy for insanity, but simply to show what may be accomplished in certain cases.

I am a young and inexperienced surgeon and am open to any criticism my professional brethren may see fit to offer. This is my fourth ovariotomy for insanity. The third case I shall endeavor to report next month, it being one of marked diagnostic interest.

DR. ROBERT A. KITTO.

Idiosyncrasy Towards Eggs.

To the Editor:—I desire to place on record the following: A lady 27 years of age, has since a child never been able to eat an egg without suffering an attack of cholera morbus (to all appearances). The same condition occurs when she eats them in any form, as cake, etc., or any method of preparing them. The lady is in all other respects normal and in good health and development.

J. CH. DODDS, M.D.

Denver, Col.

NECROLOGY.

I. L. Drake, M.D.

At the regular meeting of the Lebanon Medical Society, held in Lebanon, Ohio, May 26, 1891, the following resolutions were unanimously adopted:

WHEREAS, It has pleased Almighty God to remove from his earthly sphere our worthy professional associate, Dr. I. L. Drake, of Lebanon, Ohio, one of the oldest, ablest, most devoted and useful members of this society; we, his surviving brothers, deeply conscious of the loss we have sustained, wish formally to record our high appreciation of his character, his work and his worth: be it, therefore,

Resolved, That we hereby express our sincere grief for the sadly sudden death of our friend; an elegant, cultivated, affable gentleman; active, earnest, patient in his search after truth; constant, courageous and firm in maintaining the right as he saw it; an honest christian man. In obedience to the Almighty power that rules the destinies of men, that can build up or cast down, that can give or take away, we bow in humble submission about the bier of our departed fellow member and professional brother.

Resolved, That we most heartily tender to Dr. Drake's bereaved family and relatives this expression of our profound sympathy, and the acknowledgement, that in his

death we lose a true and cherished friend and co-laborer; and be it further

Resolved, That a copy of these resolutions be sent to the family of the deceased, and that they be furnished to the papers of Lebanon, the *Cincinnati-Lancet Clinic*, and to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

B. H. Blair, R. S. Michel, Jno. Wright, E. J. Tichenor, H. J. Death, S. S. Scoville.

DR. KARL BRAUN VON FERNWALD, the eminent professor and author, of the Vienna University, died during the last week in March. He was appointed to the chair of midwifery and become the head of the famous gynecological Klinik over thirty years ago. His writings have been among the most sought after of those devoted to his chosen subjects and he enjoyed a pre-eminent popularity among the Viennese students. He was in the seventieth year of his age and the fortieth year of obstetric teaching, at the time his death.

DR. ALFRED HOSMER, who died May 14, at Watertown, Mass., was one of the ex-presidents of the Massachusetts State Medical Society, and formerly a member of the State Board of Health and Charity. He was one of the founders of the Medico-Legal Society and a medical examiner for fourteen years. He was also, for many years, the post-surgeon of the United States Arsenal at Watertown. He was a frequent contributor to the medical journals on obstetrical and medico-legal subjects. He was in his sixtieth year.

DR. OTIS STANTON, of Washington, D. C., died April 9, in his fifty-third year. He was a native of Strafford, New Hampshire, having been born there October 22, 1837. He obtained his medical education at the Bowdoin College, graduating in the class of 1862. In that same year he became acting assistant surgeon and served in and around Washington until the latter part of 1865. He then took up practice at that city, giving special attention to gynecology. He was a member of the board of directors of the Columbia Hospital for Women and Lying-in Asylum. He was a corresponding member of the Gynecological Society of Boston. His death took place after a brief illness by pneumonia superinduced by epidemic influenza.

MISCELLANY.

RESIGNATION AND APPOINTMENT.—Dr. J. B. Hamilton, Surgeon-General of the United States Marine-Hospital Service, has resigned in order to enable him to accept of the Professorship of Principles of Surgery in Rush Medical College. Dr. Walter Wyman succeeds Dr. Hamilton in the National Service.

Dr. Hamilton's marked success as a sanitarian, and ability to grasp at once and meet the necessities of any situation of threatened danger from epidemic disease, are familiar to every reader of current history.

Many regrets will be expressed at his retirement from a position where his services have been of inestimable value to the entire country, while his appointment as one of the faculty of Rush cannot but add to the already prosperous condition of this well-known school of medicine.

Dr. Walter Wyman is the legitimate successor of Dr. Hamilton, and will no doubt fully sustain the enviable reputation of his predecessor.

WASHINGTON STATE MEDICAL SOCIETY.—The second annual meeting of the Washington State Medical Society, held in Seattle, May 6 to 8, was largely attended.

Papers on the following subjects were read and ordered printed with the proceedings of the meeting:

Annual Address, by C. K. Merriam, Spokane.
Anatomy, Dr. E. E. Heg, North Yakima.
Physiology. Dr. H. P. Tuttle.
General Surgery, Dr. N. Fred. Essig, Spokane.
Abdominal Surgery, Dr. E. L. Smith, Seattle.
Surgery of the Brain, Dr. J. B. Wintermeuth, Tacoma.
Genito-Urinary Surgery, Dr. C. H. Willison, Port Townsend.
Report on Obstetrics and Gynecology, by Dr. J. J. McKone, Tacoma.
"Do Maternal Impressions Affect the Fœtus in Utero?" by Dr. T. V. Goodspeed, Seattle.
"Treatment of the Insane," Dr. J. W. Waughop, Steilacoom.
"Analgesia of the Insane," Dr. W. J. Redpath, Steilacoom.
"On the Existence of an Intellectual Center," Dr. G. S. Armstrong, Olympia.
"Increased Reflexes and Allied Phenomena," Dr. C. W. Sharples, Seattle.
"Importance of Free Nasal Respiration," Dr. A. B. Kibbe, Seattle.

The following officers were elected for the ensuing year:

President, H. C. Willison, Port Townsend.
First Vice-President, G. W. Libby, Spokane.
Second Vice-President, H. P. Tuttle, Tacoma.
Secretary, Elmer E. Heg, North Yakima.
Treasurer, James B. Eagleston, Seattle.

Next meeting will be held in North Yakima, Washington, beginning the second Wednesday in May, 1892, and continue for three days. ELMER E. HEG, Sec'y.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 23, 1891, to May 29, 1891.

Capt. Paul R. Brown, Asst. Surgeon U. S. A., is granted leave of absence for one month, with permission to apply for an extension of one month. Par. 4, S. O. 59, Dept. of the Missouri, St. Louis, May 26, 1891.

Capt. Marlborough C. Wyeth, Asst. Surgeon, granted leave of absence for three months, on surgeon's certificate of disability. By direction of the Secretary of War. Par. 6, S. O. 119, A. G. O., Washington, May 25, 1891.

Official List of Changes of Stations and Duties of Medical Officers of the U. S. Marine-Hospital Service, for the Two Weeks Ending May 23, 1891.

Surgeon John Vansant, granted leave of absence for seven days. May 22, 1891.

Surgeon Fairfax Irwin, granted leave of absence for twenty-one days. May 11, 1891.

Asst. Surgeon G. M. Guitéras, relieved from special duty at New York City; ordered to San Francisco, Cal. May 11, 1891.

Asst. Surgeon J. F. Groenevelt, relieved from duty at New York Marine-Hospital; ordered to Gulf Quarantine. May 22, 1891.

Asst. Surgeon G. B. Young, granted leave of absence for thirty days. May 11, 1891.

PROMOTIONS.

P. A. Surgeon T. B. Perry, commissioned as such by the President, May 23, 1891.

P. A. Surgeon R. M. Woodward, commissioned as such by the President, May 23, 1891.